# NATIONAL ASSOCIATION
OF
# COST ACCOUNTANTS
## YEAR BOOK
## 1945

CONFERENCE-BY-MAIL
REPLACING THE
TWENTY-SIXTH INTERNATIONAL COST CONFERENCE

385 MADISON AVENUE, NEW YORK 17, N. Y.

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NATIONAL ASSOCIATION
OF
COST ACCOUNTANTS
1945

PRINTED IN THE UNITED STATES OF AMERICA
BY J. J. LITTLE & IVES COMPANY, NEW YORK

## PREFACE

This twenty-sixth Year Book of the Association is the first which does not consist of papers presented at the annual International Cost Conference. Yet it owes its origin to planning for a Conference which finally was cancelled in order to cooperate with government efforts to reduce wartime travel. The Technical Program Committee for the projected 1945 International Cost Conference was appointed and began work in fall of 1944. The Committee, consisting of Richard S. Foster, Howard C. Greer, Mason Smith, and Maurice E. Peloubet, *Chairman,* selected as the general theme for the annual program, "The Postwar Problems of the Industrial Accountant," and proceeded to develop a detailed conference program. When the Conference was cancelled the Committee adapted the program for a conference-by-mail, and obtained outstanding authorities to prepare papers on the topics included in the program outline. This Year Book is the result.

Building a program directly for the Year Book has made possible some features not previously included and has resulted in some changes from the familiar pattern of prior Year Books. The number of papers has been freed from the limitations of a set number of sessions. More aspects of the principal divisions of the program have been covered in a large number of papers of varied lengths. The outline is complete and closely knit. The usual discussion periods are missing for obvious reasons, but the Committee has managed to retain somewhat the same effect by arranging for expressions of differing opinion on several topics. Thus, the debate between Dr. Nourse and Mr. James, and the differing viewpoints expressed by Mr. Stans and Dr. Atkinson should provide the same sort of stimulating reading previously provided by discussion periods.

The Committee has divided its main theme into four parts, each of which is treated in a separate section: I, The Job Ahead; II, The Pricing Job; III, The Control Job; IV, The Public Relations Job. The seventeen papers making up the book treat the several aspects of the problem in a practical manner and include constructive ideas of value to every one of our members.

The end of the war with Japan came while the Year Book was in process and after the papers had been written. In spite of this the forward-looking planning of Mr. Peloubet's Committee has assured a Year Book of vital and practical value at the time of issue. Indeed, with the outline developed around postwar problems, timeliness is increased by the turn of events, which we all hoped for, but could not count on.

Mr. Peloubet, the members of his Committee, and the authors of the papers in this Year Book richly deserve the thanks of the Association for a job well done. The Year Book they have made possible can take its place with its twenty-five predecessors as a truly substantial contribution to industrial accounting literature.

MARTIN A. MOORE
*President*

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# SECTION I

# THE JOB AHEAD

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THE EFFECTS OF WARTIME PRESSURES ON INDUSTRIAL ACCOUNTING

TRANSITION PROBLEMS FOR THE ACCOUNTANT

RECONVERTING INDUSTRIAL ACCOUNTING


PROGRAM COMMITTEE

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The reconversion of industrial accounting from war to peace will be most effective if it is based on an accurate assessment of the influences of wartime pressures on industrial accounting practices as they existed before the war, a review of the lessons learned during the war period, and an appraisal of the types of industrial accounting services which will make the greatest contributions to industry and the nation in the highly competitive period ahead. This is the objective of this Section.

The effects of wartime pressures on industrial accounting are reviewed by C. Oliver Wellington, Partner of Scovell, Wellington & Co., who is well known for his many contributions as a speaker and writer in both the industrial and public accounting fields. Mr. Wellington also discusses some of the lessons learned during the war period and the need for improved distribution accounting and cost control through standards.

In the second article in this Section, Harry A. Bullis, President of General Mills, Inc., and a Past President of the National Association of Cost Accountants, discusses the accountant's job in the postwar period from the viewpoint of an industrial executive who has attained his position of leadership by way of the accounting department. In so doing he provides an appraisal of the needs for accounting services which will exist once industry turns to peacetime pursuits and outlines both the responsibilities and opportunities with which industrial accountants will be faced as we enter this period.

Having in mind the lessons learned during wartime and the basic objectives of the postwar period, Mason Smith, Partner of McKinsey, Kearney & Company of Chicago and Vice President of N. A. C. A., outlines in the third paper of this Section the steps necessary in reconverting industrial accounting for greatest postwar usefulness. He discusses item by item the principal steps necessary in regaining the ground lost during the war period and in preparing for the further advance that will be needed if the industrial accountant is to make his maximum contribution to postwar progress.

# THE EFFECTS OF WARTIME PRESSURES ON INDUSTRIAL ACCOUNTING

C. OLIVER WELLINGTON
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THE EFFECTS of wartime pressures on industrial accounting have been bad. There is no practical value in attempting to assess the blame, but undoubtedly it is worth while to review the extent of the damage and the causes therefor, and consider the steps necessary to remove such causes as promptly and effectively as possible.

The most serious effect of wartime pressures on industrial accounting has been to minimize, and in many cases to remove entirely, the impartial and objective approach that industrial accountants normally follow in considering accounting problems. In normal peacetime operations they strive to "call the plays as they see them" and handle the accounting in such a way that the records disclose the essential operating facts without unfair burden or favor to any one department or operation, product, or customer's order.

However, pressures during wartime have been such that a fair and impartial attitude has been difficult, if not impossible, to maintain. Industrial accounting has been influenced by rates of taxes on income of 80 per cent, by questions whether expenditures would or would not be allowable as costs for government contracts, and by the immense sums taken away in so-called "renegotiation" of war contracts. The management and stockholders of the average company have been left with such a minute share of the total income that the accounting for their interests, which normally is paramount, has become relatively unimportant.

*Influence of War Contracts and Renegotiation*

Before the war, industrial accounting for the more efficient plants was developed and operated for purposes of control and as an aid in the reduction of costs. However, the war pressures have tended to minimize, if not entirely eliminate, this most important peacetime purpose. Experiences of war contractors with auditors from the armed services soon demonstrated that it was more important to have

the records of an expenditure presented in a certain way so that it might be approved than it was to take steps to reduce such an expenditure.

Experiences of war contractors with renegotiation demonstrated that, while those in charge of renegotiation talked about giving credit to individual contractors for better than average efficiency, and, on the other hand, penalizing those that were inefficient, in actual practice they failed to carry out these ideas and left most contractors with a remaining profit in relation to sales which varied only slightly between the inefficient and the efficient plants. While great criticism has been expressed of the "cost-plus" contracts used in connection with procurement for the World War I, the practical result for the current war, after renegotiation, has been to leave those with high costs a profit above such high costs, which is very similar to the old "cost-plus" contracts. The word "renegotiation" conveys the idea that there has been "negotiation" between two parties, when in practice the contractor is merely told what amount he must refund, and no argument or discussion changes that figure. Broadly speaking the most efficient contractor is required to make the largest refund.

*Decline of Cost Control*

Under the foregoing circumstances there has been little pressure from outside any business to keep down its costs. As a natural result the type of industrial accounting which was designed principally to aid in keeping down costs has received less and less attention and in many cases has been discarded entirely during the war period.

The tendency caused by these outside conditions already mentioned has been made worse by losses of trained accounting personnel to the armed services and otherwise and by the difficulties of employing and training people to produce satisfactory records. As a result, many features which were an integral part of a well-organized standard cost control procedure have had to be discontinued. Many of the internal controls have been dropped altogether, and those which have been maintained have not been carried out with reasonable accuracy so that cost accounting data have not been reliable. It has been difficult to keep records of stores and production within reasonable agreement with the physical stocks.

Standards determined by time study departments have been developed hurriedly and without sufficient studies. The average skill of productive workers has dropped due to lack of experience and

training. Therefore, the standards that have been set are not truly representative of what can be accomplished.

The fact that any good industrial accounting has been maintained during the war period can be attributed in part to inertia—the continuation without change of something previously started—and in part to the determination of a few industrial executives not to let go completely the controls through industrial accounting that they had used so effectively prior to the war.

The industrial accountants themselves have had great difficulty in cooperating with the executives to maintain some control. The experienced men, during the war period, have been too busy with other matters which seemed relatively more important, such as plans that would help production, necessary conferences with representatives of various government agencies, and preparation of government reports. With the expansion of volume the experienced men have had very little time to train those with less experience, and very few of the latter have been able through study to progress far beyond the mere routine of their daily tasks. Fortunately, there will be increasing opportunities from now on for those who have ideas and the energy to apply them to help to undo the effects of the war and improve industrial accounting.

*Some Helpful Influences*

While, as already stated, the general effect of the war on industrial accounting has been bad, some of the wartime pressures may be helpful. The war has demonstrated the effect of volume on costs and the savings possible from simplification of lines of product and improvement in product design, and has eliminated some deadwood in the form of records and statements found to be unnecessary. There has been some encouragement of the spirit of questioning old-accepted theories and practices and increased knowledge of the uses of mechanical equipment. Many companies, because of wartime pressures, have found it necessary to call in outside professional assistance on particular problems, and the demonstrated value of such assistance should influence the use of similar professional help in solving the problems of converting most effectively to peacetime activities.

Even tax problems may have produced an incidental benefit. The various possibilities for relief from excess profits tax under Section 722 of the Internal Revenue Code are dependent largely upon records

of past performance of the taxpayer and his industry. The preparation of applications for relief has shown many corporation executives the value of maintaining proper records, has led them to delve more deeply into available statistics of their own business and industry, and has undoubtedly stimulated a desire for more records of the type that can be useful in effective operation of the business.

The most important features of good industrial accounting used by the more efficient companies prior to the war, that have been discontinued or curtailed during the war and will be reinstated as soon as possible, deal with distribution costs and with standard costs as applied to manufacturing and in some cases also to distribution.

We can only have so-called "full employment" after the war if a far better selling job is done than ever before. Broadly speaking, goods will not be produced unless they can be sold. There are many different methods of distributing products from the mill or factory to the ultimate consumer, and it is the responsibility of the industrial accountant to develop the necessary records to show which method of distribution is most effective in each individual case.

*Revived Use of Standards*

Many companies, before the war, maintained effective control over manufacturing costs and in some cases over selling and distribution costs by the use of standards—first determining carefully what a product or service *ought to* cost and then comparing currently the actual results with such standards. While during the war many companies have been forced to omit the determination of new standards and the revision of old ones, this kind of industrial accounting, which demonstrated its great value before the war, will be restored as soon as possible. It is hardly necessary to emphasize that the new standards must be based on present and expected conditions, which will give effect to improvements in method of manufacturing as well as to the increased amounts payable for labor, materials, and many operating expenses.

*Daily Reports*

While, under some standard cost systems in use prior to the war, the comparison between actual results and standards was made only monthly and primarily for purposes of profit and loss accounting, a better tool for managerial control will be needed to meet the kind of competition that will develop after this war. When the comparison

between actual costs and standards is made merely after the close of each month, by the time such reports reach executives a waste which might and should have been discovered and stopped has been taking a toll of profits for anywhere from a few days to several weeks. The remedy is to have *daily* reports of any costs which exceed normal.

This does not mean that there must be a daily closing of the books or a daily profit and loss statement. The daily reports must disclose what has happened in each department or production center in comparison with standards. Such comparison will be of the production made with that expected; of the direct labor expended with that which should be expended for the production made; of the indirect labor in relation to the direct labor and to production; and, in some special cases, of one or more large items of operating expenses with the expenses required for the production.

No attempt should be made to prepare daily reports in great detail as the object of such reports is to insure prompt executive action toward those matters that need correction. However, the records should be developed so that further detailed information can be produced if needed by the management. Where daily controls such as outlined have not been maintained during this period of wartime pressures, they should be put into effect as soon as the necessary industrial accounting organization can be restored.

*The Period Ahead*

Lest what is said herein may sound unduly critical, we must all bear in mind that war is necessarily wasteful. While the management of certain features directly and indirectly connected with the war could undoubtedly have been improved, the emphasis has been, and rightly so, on production of the things necessary for winning the war, and costs and expense were secondary and, in their over-all relation to production requirements, insignificant. It is only now, when we can begin to take stock of the present situation, review the recent past, and look forward to the immediate future, that we appreciate how bad the situation has been and what strenuous efforts will be needed to bring industrial accounting back merely to the position in which it was prior to this war, to say nothing of still further improvements that will be essential for management to have in guiding businesses through the period of intense competition that lies ahead.

# TRANSITION PROBLEMS FOR THE ACCOUNTANT

HARRY A. BULLIS

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SINCE Pearl Harbor, every action and policy of government and business have been directed toward the effective prosecution of the war. Individual desires and individual initiative have been necessarily subordinated to plans for the common good. Coordination of such plans has entailed regulation after regulation. Accountants have found it necessary to keep abreast of these regulations and interpretations thereof and have sought information through every channel open to them. The accountants and particularly the industrial accountants represented in the National Association of Cost Accountants have furnished leadership in the development, application, and interpretation of these myriad regulations. The value of this leadership is evidenced by the unprecedented growth of this organization. However, as wartime operations and controls give way to peacetime competitive conditions following the ultimate victory over Japan, accountants will face entirely different problems. Their work will no longer be so circumscribed by prescribed regulations, but will demand greater imagination in the development of new methods, practices, and procedures to help management during and after reconversion.

The present status of industry under wartime controls is different in many ways from industry under peacetime conditions. Now the smaller part of industrial production is for civilian use and the greater part is for the Government for use either in the war effort or lend-lease. Conditions have changed almost completely from a highly competitive economy to an economy where there is little or no competition among products; from an economy where there was a surplus of labor to an economy where there is a shortage of labor; from an economy of plenty to an economy of scarcity. The effects of all of these changes are evident from the accounting records and reports of almost every industrial concern. We see reflected there large profits with the greater part going to the Government in the form of taxes; we see greatly increased factory activity with huge quantities of goods in process and inventories; we see greatly increased costs

because of increased wage rates and overtime and the increased cost of administrative overhead; and we see the restricted output of civilian goods.

*Wartime Changes*

There necessarily has been an increasing number of reports to the Government and an increasing volume of records maintained to comply with government regulations. Some of the accounting and statistical controls which we once considered important have lost much of their significance and have been greatly curtailed or discontinued. Cost accounting has been changed to comply with government requirements and to support the company's position when it comes to renegotiation. Budgeting, where not discontinued entirely, has become a medium for allocating probable production of civilian goods. Distribution costs no longer are indicative of sales effort but merely reflect the expense of maintaining the framework of a sales organization. A dangerous philosophy of spending is a product of high tax rates. There is little or no evidence of the rigid economies which were prevalent during prewar years. In short, since Pearl Harbor there have been so many changes in our general economy and in our methods of doing business that it has been difficult for the accountant to keep abreast of the problems which have developed. It probably would not be fair to say that our accounting systems have broken down, but undoubtedly many have been bent badly out of shape. By and large, however, accountants everywhere have done a wonderful job in supplying essential information as best they could and with a minimum of trained personnel.

*The Transition Period*

With the war in Europe already ended, we approach the time when all of these conditions will again change rapidly. We can expect some reconversion and resumption of peacetime operation before the end of the war with Japan. But whatever is done prior to V-J Day will be under government control and subject to government regulation. While we are now entering a transition period, the changes will come slowly until the war with Japan is won. Although we should not be overoptimistic, we should have plans ready to enable us to go forward without confusion in the event of an early peace.

As we attempt to visualize general conditions following the end of the war, we know that there are huge civilian needs to be satisfied

and that we will undoubtedly enter a period of high production not only of old products but of new products to fill old needs. There will also be many new products designed for new purposes. Technological advances have given us new materials, new methods, and new practices. The war has caused many large shifts in population. It has necessitated changes in the usage of products and material which may have changed the habits of many people. Some of these changes may be permanent and may affect distribution. We should visualize the postwar period in terms of intense competition for the dollars which are ready to be spent.

When we view the immense feats of production which have been performed by industry, and when we consider the very minor role played by salesmanship in disposing of this huge production, we realize that the principal problems of the period after the war will be those of distribution rather than production. Distributive organizations must be rehabilitated and trained to take part in a competitive economy. During such a period of rapid change, management will need accurate information on which to base its decisions. Much of this information must come from accounting records interpreted in the light of then existing conditions. It is essential that accountants gear their efforts to follow changes in organization and to accommodate themselves to reconversion, termination of government control, and return to competitive selling. Now is the time for accountants to work out new concepts of their part in business management and in the control of the productive and distributive factors which can be reflected through accounting and statistical records.

*Planning and Budgeting*

Almost every concern has been engaged to a greater or less degree in postwar planning. For the most part, postwar plans are long-range plans, but the postwar period will soon be upon us and the postwar plans must be translated into action and plans for the immediate future. The accountant who knows the postwar plans of his company undoubtedly has already determined his course of action when these plans become operative. He must assist management to visualize the effect of putting these plans into operation by constructing estimated operating budgets based upon management's conception of many unknown factors. The only way to reduce the unknown factors to a semblance of reality so that they can be examined is to express them in statistical and accounting terms. Foresighted management will

take foresighted accountants and statisticians into their confidence and lay before them the broad plans which they have in mind, and which the imaginative accountant can use in gathering all of the factors which can be expressed numerically.

These plans must be reduced to specific and definite budgets if they are to be most effective. The budgeting function must be guided largely by the accountant, because it is necessary for the budget to be expressed in accounting and statistical terms. The construction of the budget is a responsibility of management, and while the forms and procedures are outlined by the accountant, the actual construction of the budget must be made by operating executives. The responsibility for budgeting should be made clear to every person who controls any phase of operations or who has responsibility for spending money. The budget of the future, to be effective, must be made a tool for better operation and better management as well as a device for examining all phases of operations periodically. To that end the accountant should attempt to develop better methods of follow-up and simpler and more understandable control methods, tailored to fit the needs of the individual company.

A principle of budgeting which has sometimes been overlooked is that of flexibility. Too often budgets are made for an accounting period and when once made are rigid. Methods must be developed to remove rigidity and to accommodate the budget to changes which occur during the accounting period.

*Cost Accounting*

The cost accountant will undoubtedly have his troubles multiplied during the postwar period. Factory processes and procedures are becoming more and more intricate, with the result that cost accounting will likewise tend to become more intricate as it attempts to follow all of the details of factory processes. Cost accounting is based upon a continuous analysis of factory expense so that costs can be computed for each step in production as the goods move from process to process. This has been deemed necessary for purposes of inventory valuation so that goods in various stages of manufacture may be correctly appraised and the monthly profit and loss correctly stated.

Many cost accounting systems are very elaborate and detailed, both in the allocation of those costs which can be directly charged and in the application of arbitrary allocations of indirect and overhead costs. Many of these allocations have been developed because of the require-

ments of Government. They will bear re-examination to adapt them to the needs of management. Cost accounting received its greatest impetus during and following World War I. Following World War II we should see equally great advancements in techniques directed towards the goal of economically supplying necessary cost data for the guidance of management.

The cost accountant must learn to weigh the value of information against the expense of obtaining it and to eliminate the records which are not worth what they cost. Cost accounting methods which in the past have been acceptable may be found unnecessarily cumbersome and inadequate. We should remember that a chain is no stronger than its weakest link and that in the final analysis the cost accountant's elaborate records and reports are no more accurate than his poorest estimate. It is possible that in many businesses continuous analysis of factory costs may not be necessary but that periodic studies of costs can be made and factory expense controlled on the basis of productivity.

A principal problem for the cost accountant is a determination of cost standards at various rates of operation and the determination of the cost of each increment of output. These studies will include the effect of wage rates, overtime, and incentives, and possibly costs resulting from greater stabilization of employment. It is necessary for management to know the actual value of additional volume at different levels of production over and above an established base in order to develop an effective pricing policy. We are inclined to think of a standard as something which is fixed and which cannot be changed, and to assume that when it becomes inapplicable an entire new standard must be found. This concept, as it applies to standard costs, must be revised. Conditions change rapidly in any business, and management cannot wait for the cost accountant to calculate new standards every time conditions change. It is highly desirable that standard costs be flexible so that they can be accommodated to any set of conditions which may confront management without the necessity of delay for recomputation.

*Distribution Cost Accounting*

Before the war, some efforts were made to apply the principles of cost accounting to distribution. Some concerns have made an effort to allocate certain distribution expenses, such as warehousing and cartage expense, directly to various products but have made little

effort to analyze and allocate other distribution costs. There is no reason why the principles of production cost accounting cannot be applied to distribution problems. With patience and cooperation on the part of sales executives, the accountant can work out methods and procedures which will be reasonably accurate and which will supply valuable information to management. In undertaking such a task, it is essential that there be close cooperation between the accountant and the sales executive. The accountant who is genuinely anxious to help and who has the broad viewpoint of management will be able to secure such cooperation and thereby increase his value to the company.

Cost accounting as applied to distribution will be particularly valuable during the postwar period because of competition among products and the need for reducing distribution costs. Many new methods will be developed for distributing products ranging from new means of contacting consumers to new types of super-service distributing plans. The accountant will be called upon to develop ways of evaluating various methods or channels of distribution for each of many products.

It will become more and more necessary to measure the value of advertising and promotion. We can expect to see much of the institutional advertising of the war period change quickly to advertising and promotion which is directed principally toward the actual selling of specific products. Undoubtedly new advertising media will come into being, but the accountant will be concerned primarily with the dollars and cents return from given expenditures for advertising and promotion. Management is interested in results as against costs. Many methods of measuring the effectiveness of advertising are in vogue for different media as applied to various products. The reports are sometimes elaborately detailed and are confusing and inconclusive. The accountant can contribute greatly in analyzing, interpreting, and evaluating the various types of measurement and in expressing the results to management in an understandable way.

A few attempts have been made to ascertain how salesmen utilize their time. In some instances it has been found that a surprisingly small part of the salesman's day is spent in the presence of his customers, and a great deal of his time is spent in traveling between customers and in waiting for admittance to see his prospects. The results of salesmen's time studies have almost invariably led to better

planning of the salesmen's routes and courses of training to impress upon them the need for planning their work in advance.

During the transition period, every concern will be striving to build an efficient distributing organization. There will be competition for the services of good salesmen. It follows that many types of incentive plans will be devised to attract the salesmen into an organization and to provide sufficient incentive to keep them working at top speed. It falls largely upon the accountant to analyze proposals for sales incentive plans and to work out their practical application before they are put into effect so that management will be reasonably certain that they are sound. He will be required to keep the necessary accounting records to make an incentive system effective and to provide information quickly to sales management and the sales organization so that every salesman will know where he stands currently. Accounting for incentives will be an important part of the postwar accountant's duties.

*Wages and Salaries*

The fact that the only source of wages, salaries, profits, and taxes is the difference between the dollars taken in and the cost of material purchases and facilities used is so simple that many people tend to overlook its significance. This simple fact, however, is the basis for every management decision relating to wage and salary rates and fiscal policy. It must be reiterated again and again to all employees, to the public, and to governmental agencies. Management and labor must realize that their general aims are the same, and that without prosperity, which means profits for industry, high wage rates cannot be maintained. To the end of establishing fair wage rates, it will be necessary to develop acceptable measurements of productivity which can be used as yardsticks in evaluating services rendered.

It is an axiom that one cannot get something for nothing. Both labor and management must understand that principle. If wage rates become too high, the increased cost of the resulting products results in less consumer acceptance, with resulting decreased income to the manufacturer and consequent inability to continue payment of such rates. If wage rates are too low, labor is forced to lower standards of living, with consequent inability to purchase the products of either farm or factory, with resulting economic dislocations. Hence, accountants will do well to study economic principles as related to productivity and the practical application in evolving methods of measurement.

*Expense Control*

The accountant is always aware of the need for controlling expense. This need will become more and more acute. The excess profits taxes have resulted in laxness in the expenditure of money and a philosophy that anything that appears desirable is justified because the expenditure comes out of excess profits, most of which would go to the Government anyway. This is a dangerous philosophy because it leads to undue extravagance in all phases of business. After this philosophy becomes ingrained, the habit is exceedingly difficult to eradicate. The accountant should continually keep before management the probable effects of increasing expenses. He systematically should prepare reports of unnecessary or extravagant expenditures. There should be no laxness in the preparation of expense schedules and expense analyses, because one day management will wake up and will hurriedly demand information on which it can base decisions for expense curtailment.

*Subsidies and Taxes*

The relaxation of government controls will eliminate some of the records which are now being carried because of government requirements. It is probable, however, that subsidies in one form or another may be continued for some time in an attempt to equalize certain inequities in our national economy. The accountant should carefully evaluate such subsidies as they affect his particular business and should determine proper methods of accounting for them. Again, tax accounting will be another important phase of the accountant's efforts. In fact, the accounting staff should have some of its personnel thoroughly acquainted with tax developments and with their effect upon the business, particularly as the results are reflected in the books of account.

*Presentation of Accounting Data*

Many accountants have been weak in the presentation of accounting information and data for managerial use. The average accountant makes up accurate profit and loss statements, expense schedules, cost accounting data, and other reports and sends them in to top management with little or no attempt at simplification and interpretation. During the war there probably has been less opportunity for good presentation than during normal periods, but in the postwar period

the accountant will greatly enhance his value to management if he will train himself to present his data in simple form and with clear and concise interpretation. The accountant should try to get management's viewpoint and to understand the problems of management as the operating executives see them. If the accountant understands the needs of management, he will be able to present his data in a way which will assist in solving the problems of management.

It frequently happens that when a specific form of presentation is developed, the report continues to be presented in that manner month after month and year after year without change. In some cases this may be desirable, but in many instances it is merely because the accounting department considers it a routine report, and the executive does not take the time to think about it sufficiently to request that the report be changed. The accountant should periodically review all routine reports. He should keep his thinking flexible. He should try to determine whether or not some other method of presentation would bring more productive results.

*Estimates*

Successful business is managed largely on the basis of estimates intelligently made. A good estimate emanating from one who has the imagination to consider and evaluate the impact of important factors is often of more value than the meticulous and allegedly accurate cost reports. Many accountants have an antipathy towards estimates. They are so used to recording the actual results of operations and to taking figures out of books or records that they find it difficult to use their imagination in estimating the probable outcome of certain operations before they occur. Here again the accountant can be of great value to top executives if he will learn to make good estimates, whenever estimates are required.

*Opportunity for the Accountant*

There is a shortage of trained accountants. This will become more evident when the war is over. Many men and women who are not fitted by temperament or training have of necessity been forced into accounting work. There has been a hiatus in university and college training because the young men are in the armed services. Although many good accountants are in the armed forces, they have been out of touch with business, many for several years. Every company has an obligation to re-employ all of its returning service men and women

and, where necessary, to provide training to enable them to find their most productive place in the organization. Therefore, the accountants now in industry must plan for the training of the returning service men and must cooperate with the colleges and universities to attract and to train qualified young men and women as rapidly as possible. The National Association of Cost Accountants, through its study courses, has done much valuable training during the war period. The Association will have an even greater opportunity to serve in the period after the war.

It is evident that the postwar period will provide greater opportunities for the accountant than any previous period in history. There will be more problems to solve, and there will be more of an opportunity for accounting to be of value to management in the conduct of the business. Now, as never before, there is need for the intelligent balancing of all phases of operations. Accountants must preserve a sense of balance in their thinking if they are to provide intelligent assistance to management during this difficult and challenging period. They must see that policies are set in the direction which will spell progress, and which will contribute toward realizing the generally accepted objectives for the nation—gains in welfare for all.

# RECONVERTING INDUSTRIAL ACCOUNTING

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AS WE APPROACH the end of the war, industry is already in the throes of resetting its operations in harmony with its new peacetime objectives, plans, and policies. The shift into a war economy disrupted the traditional method of doing business which many companies had followed for scores of years and forced the American business man to consider his problems more objectively than had been the case in prewar peacetime operations.

There has been too much loose thinking and loose talking concerning the business bonanza which will be available generally after the war. Too many executives freely translate the existence of the opportunity for general business prosperity into their specific inherited right to participate in that prosperity. A more realistic view, however, brings one to the cold conclusion that, in the postwar period as in the prewar era, the winner in the business sweepstakes will earn his right to be a winner through the application of those broad concepts of business which, for most companies, have provided adequate guidance for their operations.

Let us keep in mind, therefore, that the postwar period is not one where all we do is open our eyes to behold wondrous things, but is more likely one where we must bear down with the best that is in us as business men if we are to capture our fair share of the admittedly increased business that will be available.

## *Wartime Lessons*

While the war caused serious disruptions, not all of these can be considered in a destructive light. Quite the contrary, the war has taught all of us many worthwhile business facts of life. Among these are:

1. The value of sound planning, for without good planning much of the war job could not have been done.

2. The value of proper methods and techniques. Many businesses before the war had never experienced the thrill of predetermining proper manufacturing techniques and realizing the benefits that follow through their application.
3. The effect of volume on costs. Examples of startling results in this category are legion. Many executives today hope that they can find some way to realize volume advantages which the pattern of their business before the war did not allow them to enjoy.
4. Profit possibilities in low margins and high turnover.
5. The value of cooperative relationships with labor.

It is true that many companies had learned these lessons prior to the war but, to the vast majority called upon to contribute large quantities of goods for the war effort, their experiences in these respects were new. They were not unlike the new graduate of a school of business. They had heard and read about some of these benefits, but they had not experienced their real significance.

*Basic Postwar Objectives*

These wartime experiences have caused many companies to re-examine their prewar business. The result of this examination has been to give serious thought and planning in the general field of a re-examination and restatement of the desired objectives which a particular business is going to use as broad guideposts. These objectives fall into categories of the following types:

1. That the business in order to live must be so conducted that it can make a reasonable profit return on the capital required. In this general field wars tend to shake us loose from some of our established business practices which have been wasteful in the utilization of capital. The alert business in the postwar period will not tolerate those techniques, those pricing policies, and those manufacturing processes which are so inadequate that more capital is needed than can be economically justified in a competitive economy.
2. That a virile business must also operate at a reasonable rate of profit on sales. This, of course, is tied in very closely with the matter of turnover and with the matter of reasonable rate of return on capital employed.
3. That a sound industry position must be developed and maintained. The alert business man will not tolerate high cost dis-

tribution, the use of ineffective elements in the channel of distribution, the sale of products at such rates of profit that competition is invited, and the operation in unnatural markets in which the particular company's products are unable to maintain a reasonably competitive position. One need only look into the history of the chain store to see the benefits of a program of constant aggressiveness in driving distribution costs downward and gaining a greater share of the consumer's dollar thereby. Any examination of the trends in the chain and mail-order field compared with those in the department store field brings out eloquent evidence of the value of careful attention to operating and merchandising matters. These have as an end result the delivery of more merchandise in exchange for the consumer's dollar with the requirement that less dollars be kept to pay operating expenses.

4. That the virile company must maintain a wage and salary structure which will attract and retain not only adequate top executive personnel but adequate replacement of people. Broadly speaking, one usually finds that the inherent difference between the operating results of two or more companies in a highly competitive industry stems back to the successful company's ability to develop and hold an adequate number of major executives and major replacements.

*Accountant's Relation to Postwar Executive*

All of these factors and many others that might be mentioned mean that the accountant must face a different kind of executive and must operate in a different atmosphere than was the case before the war. This postwar executive will have a more sober respect for the figure facts of business than he did before he had to wrestle with negotiation, renegotiation, termination, cost-plus-fixed-fee contracts, and other mathematical problems concerning which he had to turn to his accountant for help. It would do us all good to remember that he has been through a most sobering experience and in many instances has been required to know more about the figure aspects of his business than he ever knew before. It seems reasonable to suppose, therefore, that he will not treat lightly the suggestions which a competent accounting executive can make in peacetime where such suggestions are based upon the same type of searching examination which guided the executive through troubled waters in wartime. In short, the account-

ant's audience is receptive in many places where before the war it was either passive or downright resistant.

Keeping these factors in mind, the accounting officer faces his own reconstruction job. He will do well to observe many of the fundamentals which were true prior to the war, and he will also do well to tune these in to the new wave length which the wartime experience of his superior has opened to him. In connection with the reconstruction job specifically, there are a number of pertinent factors to be observed and utilized.

*Constructive Service by Accountant*

First on the list I would place the development and maintenance of the service point of view. While it is true that the chief executive has leaned heavily on the accountant during the war, we must remember that he has been concerned primarily only with a production and delivery problem. It requires far less business judgment of intangibles to deliver goods through a cannon mouth than through a distribution bottleneck. As he returns to his normal peacetime business he must also return to being a peacetime broadgaged business man. He will, as he always should have done, expect realistic, imaginative, careful service which can be of constructive help to him in reaching decisions in an atmosphere that is inherently complex.

*Control Reports*

As a second requirement, the accounting officer should re-examine his control reports and devices. He should remember from wartime operation those experiences and those uses of cost figures which he can now turn to constructive help in the peacetime economy. Prior to the war he may have found it difficult to gain a proper appreciation by line executives of the importance of cost controls. During the war that appreciation may have been required. After the war it should be relatively easier to maintain the use of such control assistance than it was to obtain it in the prewar period. Let us keep in mind again that not only the chief executives but those in supervisory positions in the plant have taken a figure bath of fire in getting out war production at proper costs.

*Account Classifications*

As a third requirement, the chief accounting officer should reexamine his account classifications to be sure that they parallel any

revisions in organization responsibilities which have occurred and which will be carried over into the peacetime period.

*Use of Budgets*

As a fourth requirement, the accounting officer should again capitalize on the greater awareness of executives to planning by fostering the development and increased use of budgets. No chief executive or works manager who had to plan to get his raw materials and to meet delivery schedules of completed items and service parts during the war period can fail to see the benefit, if it is properly presented to him, of continuing that planning through a wide budgetary program.

*Bringing Standards Up to Date*

As a fifth requirement, the accounting officer should insist that the labor and material standards in the plant for peacetime products be brought up to date and that these take into account the new techniques and different materials which the lessons of war have introduced. Going hand in hand with these revisions in standards should come a close re-examination of the means of reporting off-standard performance. The accountant must remember that his information in these categories will be utilized for pricing and cost control. His information will be only as good as the operating conditions which it reflects.

*Reorganization of Accounting Department*

As a sixth requirement, the accounting officer should organize his department so that he will have adequate time to render assistance in connection with new problems. Scores of businesses are going to attempt new and different manufacturing and selling operations than they experienced prior to the war. These new ventures will be garnished with all of the enthusiasm and hopes that naturally come to the business adventurer charting his course in the general atmosphere of expanded industrial activity. The accounting officer should keep a generous portion of his time free to place these proposed actions under the close scrutiny of his objective point of view and his analytical ability so that mistakes of judgment in these new fields will not be mistakes of factual and figure immaturity.

*Cost of Operating Accounting Department*

As a seventh requirement, the accounting officer should look well to his own department and should plan and execute its operations on

a low-cost basis. This basis will be achieved in direct proportion as he hires and develops good people, develops and maintains sound methods and techniques, and utilizes mechanical aids wherever the volume of his work justifies their installation. In other words, the figure service factor in the business must be subjected to the same careful scrutiny by its boss as the production line is examined by its chief.

*Control-Mindedness for Expenses*

As an eighth requirement, the accounting officer must take the responsibility of reinstituting a control attitude of mind in the handling of expenses. Our five years of wartime experience have developed concepts of handling, many of which are found usually at the race track or the gaming table. It seems to have occurred to but a few people that if only ten cents out of a dollar can be saved after taxes one has to save ten times as hard to get a whole dollar. On the contrary, a vast majority have adopted the easy road of "spend it and let the Government pay 90 per cent of it." Such concepts introduce an element of sloppiness in the attitude of mind of line executives. Such an attitude endangers the base of all sound expense control. The accountant may provide the tools and the information, but a spendthrift-minded executive will devitalize the best control system.

Undoubtedly many other criteria should be observed by the accounting officer as he reconstructs his department for the postwar period. I believe, however, that if he will keep in mind that the war has made his top executive and chief line executive associates more planning-minded and more figure conscious, he will grasp an opportunity which he has never had really to establish his accounting operation in a more receptive atmosphere than has been his fortune up to date. He will realize on that opportunity in direct proportion to his ability to handle himself skillfully in his personal relationships with his associates. They have acquired a respect for his operations through his wartime activities, and this may serve as a foundation for a continued and growing respect as peacetime problems must be met.

# SECTION II

# THE PRICING JOB

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Cost Finding and Price Determination

Capacity, Costs, and Prices

Practical Capacity vs. Normal Capacity

Price Cutting Is Not the Way Out

Recovery in Price of Plant Costs
- Financial Accounting Approach
- Industrial Accounting Approach

Cost Data for Day-to-Day Pricing

Practical Problems in Pricing the New Line and New Order

What Costs for Price Control?

The art of pricing for a competitive market has been little practiced during the war period. With the ending of the war and the return of price competition, the development of cost data for use in pricing is certain to become one of the most important and exacting jobs confronting the industrial accountant.

That accounting concepts do exert an important influence on pricing policies and results is ably shown by Dr. Edwin G. Nourse, Vice President of the Brookings Institution, in the first paper in this Section, which was originally presented as an address at the Cleveland Cost Conference last spring. Dr. Nourse is particularly concerned over the effect on prices and on the whole economic process of costs based on normal capacity. This viewpoint is disputed by Charles C. James, Associate Counsellor, Stevenson, Jordan & Harrison, Inc., and last year's President of the New York Chapter, who defends the use of the normal capacity base. Dr. Nourse and Mr. James continue their debate with rebuttal arguments.

Following are two companion articles on the recovery in price of plant costs. Maurice H. Stans, Partner of Alexander Grant & Co., of Chicago, and a member of the Committee on Accounting Procedure of the American Institute of Accountants, upholds the financial accounting viewpoint, while Dr. Sterling K. Atkinson, Professor of Accounting, Temple University, and Editorial Associate of N. A. C. A., upholds the industrial accounting viewpoint on this highly controversial subject.

Turning from matters of policy to their practical application we next have a discussion of the development of cost data for day-to-day pricing by Clinton W. Bennett, Partner of Cooley & Marvin, Boston, and Director in charge of Chapters for N. A. C. A., followed by a discussion of the practical problems in pricing the new line and new order, written by W. F. Burke, Assistant Secretary of the Scovill Manufacturing Co.

On the theory that governmental price control may continue for some time during the reconversion period, this Section is concluded with a paper by Robert R. Hertzler, Controller, Forstmann Woolen Co., and current President of the New York Chapter, which provides a critical analysis of the type of cost data needed to provide a fair and logical basis for governmental control of prices.

# COST FINDING AND PRICE DETERMINATION

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THE PROGRESS of cost accounting and the rise of an association such as the National Association of Cost Accountants is simply one part of the gradual advance in standards of business management in the United States. Elsewhere I have remarked that in this advance public accountants were the first group of business specialists to be accorded recognition as a profession.[1] It was in this technical area that there first developed a formal scheme of preparatory education, qualifying tests and procedures, and an alphabetical designation. But even within the ranks of the CPAs there are grades and differences, not merely in technical competence, but also in the range of the difficulty of tasks undertaken and in the reach of the practitioner's ambition to play a constructive role in the administration of business. The mere financial accountant is a sort of hod-carrying historian of business, not an imaginative and creative architect of more enduring, more efficient, and more satisfying business and economic structures. It is in cost accounting, or, better, cost analysis, that we find the upper crust of the accounting group, and there is no ceiling that stops, or will even check, the cost analyst's rise into the ranks of professional economics and the farthest reaches of social science.

The simplest definition of the cost accountant's job would relate to a farm enterprise or some highly competitive type of staple or non-branded manufacture, where a general market price will establish itself regardless of the operative or volume policy followed by management. Here the service of the cost accountant will consist chiefly in helping to detect leaks which are due to inefficient operation and to divert effort from less profitable to more profitable lines. The problems in this field are limited largely to the application of standard accounting procedures to particular operative situations. Industrial workers and the public generally, not only accept general accounting

[1] *Price Making in a Democracy*, pp. 372 ff.

principles as pretty well established, but also accept market price on the one side and the "commitment of resources" (to use the current military phrase) as decisions outside the discretion of the management of the given enterprise. But these are not the kinds of questions that really challenge the professional capacity of industrial management today and of the industrial accountant in his role as one of management's most important technical assistants.

*Managerial Policy of Business Corporations*

Over a large and strategically important area of modern industrial business, prices are not made by the broad and impersonal forces of the general market. They are strongly influenced by the managerial policy of corporation executives. Plant, capital, and labor resources are not spontaneously committed to the processes of economic production, merely to be tactically guided in this direction or that by business management. Whether or not they are used, hoarded, operated below capacity, or allowed to run to waste will depend on the broad strategic purposes of business managers. These decisions will be made by the judgment of these executives, re-enforced by findings of facts, the formulation of estimates, and the interpretative comments of their engineering, marketing, and accounting staffs.

The whole question, therefore, whether private business management here in America during the period just ahead is going to show a capacity to organize job opportunities for our whole labor force and equip them with such plant facilities as will maintain and advance our general scale of living, comes sharply to focus on this issue of cost finding and price determination, which I have used as the title of this paper. If private business is to prove its claim that it offers the most efficient, that is "productive," way of carrying on our business operations, it must do so by demonstrating great skill and ability in working out suitable cost-price adjustments. And "suitable" does not mean merely satisfactory to itself within a given period of operation. Management must also have the courage or the confidence born of profound understanding, which will reconcile these individual cost-price-profit adjustments with over-all demands of the economy. This means individual company adjustment that promotes and contributes to high general productivity. Only so shall we have well-sustained opportunity of all workers to find jobs, and without this the continuance of private business is impossible.

*The Industrial Accountant's Role*

If your concept of your task or, better, your function in the business system is simply to find what is the absolute cost of producing an article or of rendering a service in order that the executives of your company may, by adding a desired profit margin, determine the price to charge or the service rate to set, I maintain that such a concept is not adequate to the demands of the system of administered prices or monopolistic competition in which we live. To go grubbing through the physical and financial records of your company merely to build up a verified or verifiable record of what *are* or *have been* the costs of producing specific products is to overlook the complex living relationship of that price system which is the very heart of our economic life.

Just as the work of a great chemical company has been described in these days of synthetics as "tearing down and building up molecules," so the work of the industrial accountant may be described as tearing down dead figures and building up live managerial decisions. From the record of certain business transactions the industrial accountant must try by analysis and synthesis to construct a living picture of the vital processes of the economic system. His justification for drawing a salary is not that he has informed his company that the cost of a specific product during a period of time, detached from both past and future and presumably isolated from both cause and effect connections, was so many dollars or cents, with the implication that this is the trustworthy and inescapable cost to which prices must be tied if profits are to be made or losses are to be avoided. If he is willing to accept the frame of reference furnished him by a management that simply wants to have costs shown as a breakdown from the expense and revenue sheets of the last preceding year or quarter, he may become a blind leader of the blind, confirming management in stupid or mischievous practices whose correction should be the very purpose of his professional existence.

If, on the other hand, management is introducing price changes purposefully or experimentally, or if such changes are being forced by competitors, their results must be carefully analyzed to learn their lessons. And to learn their lessons means to exploit fully the opportunities of progress they present, not merely to heed any warnings of danger they may contain. But the really useful, the highly professional, cost analyst will go beyond even the fullest processing of

actual expense and revenue figures to let his disciplined imagination play with all sorts of hypothetical figures of how costs would behave, how markets would respond, and how employment and public income would be affected if managerial reasoning should proceed from desired price to necessarily related costs rather than from somewhat arbitrary cost concepts to resultant price tags.

*Type of Economic Philosophies*

If we examine the application of cost accounting as a means of guiding and checking the course of the administrative price maker, we are bound to find the work of cost accountants reflecting their individual economic philosophies. It may be an economic philosophy consciously and professionally built up from either a university training or systematic subsequent reading in the field of economics. Or, on the other hand, it may be an economic philosophy built up out of the accountant's own lay reasoning or accepted from the managerial thought and practice of his superior. Either background may give us the creator type, or the conservator type of executive.

It is worth while to pause a moment to contrast these two broad concepts of the manner in which the cost accountant may serve his company. The one may be described by saying that some accountants seem to operate on the principle that the studies which they make and the reports which they prepare should serve to make the company safe in spite of adverse conditions of general business, and to accumulate such financial strength as will enable the enterprise to weather the storm even when great numbers of other concerns go to the wall. The other concept of cost accounting—as a guide to price making, which, in turn, is the crux of managerial policy under modern industrial conditions—seeks to make the given company sound through itself following, and through promoting the general adoption of, practices that will contribute most fully to maintaining sound conditions throughout the economy. This means creating and maintaining the most wholesome conditions in the general consumer market to which all producers must look as the source from which they draw their own well-being.

Now I think that what I have said in my introductory remarks, and what a few of you may already have known from reading some of my other writings, makes it clear that I believe the second of these concepts is the one which is most consistent with cost accounting on the professional plane. I shall not, however, proceed to develop that

idea by direct argument. It would get us into issues much too extended for the space allotted to this paper. Furthermore, I realize that some of you may well be thinking that I have drawn a rather strained or false contrast between the two schools of managerial thought. You may be disposed to say that all that any given management can usefully consider and can effectively influence is its own affairs. However, if each company does keep its own house in order, keeps itself solvent and, so far as possible, prosperous, that should result in general solvency and general prosperity. This is very plausible on the face of it, but a little deeper thought will quickly reveal some ambiguity among prevalent ideas of solvency, prosperity, and profit maximization, and between immediate considerations and the longer-time repercussions of current policy and practice.

*Importance of the Broader Philosophy*

I think, therefore, that within the space available I can do most to show the advantages of the broader philosophy of the cost-price relation by setting forth what seem to me to be some limitations on the conservator philosophy of business management, which expresses itself in specific practices widely accepted by cost accountants. This might be called the "safety first" or "maximum safety margin" school of thinking.

In a previous paragraph, I referred to the danger of cost accounting not taking sufficient account of the long-run situation. To this you might make rejoinder that it is in just this direction that modern cost accounting has made its most distinctive contribution to business management. It has brought the time perspective more fully and more accurately into the picture through careful—some might say "scientific"—handling of depreciation charges and whatever contingency reserves are appropriate. I will at once concede that this has been a large and important phase of cost accounting development. But the very point I want to suggest is that in spite of great refinement and ingenuity in techniques for allocating overhead charges, a failure to dig deeply enough into the broad economic principles which are involved has resulted in setting the gross amount of reserves needed at too large a figure. This puts an expense burden into the price-making formula which is mischievously high and thus makes the quest for safety a source of actual danger.

We may perhaps draw a useful analogy here from the engineering side of business. It may not be good engineering to make a part in a

machine so strong that it will never break, or so heavy that it can't possibly wear out. The automobile engineer, for instance, wants to get speed as well as strength and has to consider manufacturing costs as well as technical perfection. If the automotive engineer made the safest automobile he could build, few of us could afford to buy cars and fewer still would be satisfied with their performance or probably with their appearance. The working compromise which we accept, in fact demand, from the automobile designer is one which approximates maximum satisfaction in automobile travel and maximum economy in the transportation of goods by truck, but which unquestionably causes a given car to suffer more damage when, through bad luck or bad driving, it gets into a collision. Likewise we sacrifice some thousands of lives each year in the interest of maintaining certain standards of automobile performance. "You can't make an omelette without breaking eggs." Wars are even won through a scheme of "calculated risks." Similarly, the industrial price maker must be guided by a technique of cost calculation *which gives sufficient weight to future costs and contingencies but which does not rate these so high that his demand for financial safety prices him out of the market to an undue extent.*

*Cyclical Hazards and Depression Reserves*

Here our analysis must go a step beyond the analogy of automobile safety, because the attempt to achieve business safety through ample overhead cost estimates, actually, in many cases, brings about the very condition out of which that cost factor is enlarged. The impact of future conditions upon management's handling of problems of costs during a current operating period, of course, covers all variations of accounting reserve. Let us assume that the probable physical life of equipment can be estimated quite accurately by the engineer and that its economic usefulness or obsolescence can be reasonably guessed. There is, however, a strong temptation to step up reserve allowances to cover business hazards that relate primarily to the possibility of low rates of commercial activity. This means economic uncertainty rather than technical risk. The latter can be mastered largely by modern methods of research and specialization of personnel, or they may be averaged out through large-scale corporate organization or shifted to insurance companies. They are thus realized costs, currently defrayed, and not merely budgeted against reserves or surplus. But what cannot be thus disposed of and what

we are primarily concerned in is the kind of widespread economic uncertainty which may be conveniently referred to as the cyclical hazard or "depression reserves."

*Determining Plant Capacity*

As to the nature of this problem as it affects particular industries or companies, you are much more intimately informed than I could possibly be. But there are certain broad economic considerations which govern the size and successful handling of this problem which I shall venture to discuss from the standpoint of the future of private capitalism. This issue will center on a practice which has grown out of a great volume of actual business experience, which has received a large measure of approval by executives of great prestige as well as by professional accountants, but which in my judgment requires careful re-examination. This is the practice of setting up "standard costs" based on operation at a level, say, a quarter or a third below full plant capacity.

It may seem the simplest kind of business logic by which business managers and their cost accountants have developed this procedure. It is obvious that machine rates must be based not merely on the time a machine is productively employed but also must cover time for repair of breakage, cleaning, relining, or other forms of technological idleness. It is obvious also that time rates or unit costs must be averaged to include seasonal inactivity and go even beyond the span of a single year's operation, to include possibly ups and downs due to variations in crop yields or other similar swings that are due to the vagaries of nature. This means that many things that we are pleased to call "cycles" enter into the cost accountant's calculations, and he gives particular thought to making his period of estimate cover the full cycle. What I am venturing to suggest, however, is that between technological cycles, and those which are due specifically to the releasing or withholding of business enterprise as a result of managerial discretion and price and investment policy, there is a significant difference. Here the fact is that bad price procedure creates the condition of business inaction. If you make a charge designed to offset this cost, you aggravate rather than cure the disease.

*Effect of Operations in Excess of Normal Capacity*

The preceding may strike you as a rather vague and unduly generalized statement. You would perhaps like to see it broken down

into more concrete terms. Let us, therefore, trace through the successive steps which would follow in the application of this philosophy of price determination on the basis of normal operation at two-thirds of plant capacity. Since costs as computed cover the overhead of the idle plant, the company is making a living return even at this low rate of utilization. Now some stimulative factor imparts to the business scene a note of positive prosperity. Sales enlarge, overhead costs decline, profit margins widen, but price remains unchanged. Surplus reserves accumulate and for a time may be actively employed as larger working capital for this or other companies as is called for by the expanded scale of operations. In part, these mounting profits may be invested by the given company or loaned to other companies for plant expansions and betterments. But since we are for a considerable period simply bringing into use plant capacity which was idle under the conditions for which standard costs were computed, a substantial part of these profits will be accumulated as business fat on which the company expects to live in the hungrier days when the boom is over.

It is hardly too much to call this procedure "planning for depression." It is not even geared to the idea that we shall go back to normal operation at two-thirds capacity and there break even. Instead, it foresees subnormal operation in which the excess profits accrued when we were using the top third of our resources will pay for the losses or the excessively high costs when operations get down to perhaps the bottom 40 per cent of capacity. This, I submit, embodies a defeatist psychology and has the effect of making prosperity a disease instead of a condition of normal health. It, in effect, defines normal business as a period of semidepression, to which our cost and price philosophy returns us, instead of helping us to continue on the basis of high employment, maximum efficiency, and the best practically attainable scale of national living.

Another way of stating the matter is to say that under such a procedure you are charging too much in terms of the efficient operative conditions of prosperity and thus never letting efficiency be the basis of price. Now it is just as fatal to business prosperity for industrial accountants to present to price-making executives a picture of costs which is too high as it is to present cost estimates that are too low. Probably most of you would agree to that proposition in general terms but would not feel that it presented any very great practical danger. Or at least you would argue that such a mistake would be

self-corrective, that is to say, that costs as a basis of price were in fact set too high only if the price so set restricted sales unduly. This would be soon discovered and corrected. But that is by no means necessarily true of the typical cases to be found under industrial capitalism. Prices may not be so high as to make apparent their effect in curtailing sales and yet may slowly but persistently sap the health of the economic body and thus undermine future prosperity. This is no trick situation which I am bringing before you merely as a matter of mental gymnastics. It is one which is characteristic of periods of what are ordinarily described as "good times," and which become most striking when good times become a business boom.

*Factors Contributing to Economic Instability*

Under conditions of active prosperity, private consumers will go into debt on instalment sales; the more incautious and inexperienced business concerns will overexpand investment, and banks will overextend credit, so that sales do not fall off in spite of the fact that prices are in broad economic terms too high. That is, they are not set in terms of costs which are being incurred under any percentage utilization of our labor force and capital resources which should be regarded as normal to business by an intelligent and provident people. By this I mean something approximating full practical capacity, with every technically necessary allowance for unavoidable or justifiable seasonality, for time needed for reconditioning plant, and for the incurable truancy of many members of the working force. It most emphatically does not provide any productive offset for the forced idleness that comes from the actual depression that ensues upon exhaustion of spending power through prices based on costs at 65 to 70 or 75 per cent of capacity. Thus, this kind of business administration, devised in the interest of security for the given company, actually produces economic instability.

Such estimates simply write the wastes of idleness into the cost sheets of a business, transfer normal spending power into depression reserves, which are then dissipated during a period of slack operation, without doing any good to the "astute," "prudent," or financially strong company that accumulates them, but imposing vast harm on the less well-entrenched companies, on the least indispensable part of the labor force, and on the farm population whose fortunes depend on the ability of the working population to buy adequate food and clothing. It might be described as "putting capital on a dole" at

times when it is withdrawn from active use. In terms of economic effect this is just as pernicious, no more so and no less, as putting labor on a dole over extended periods of enforced idleness. It is essentially the same as organized labor trying to get economic security for itself by pushing wage rates up regardless of the effect that this may have on the ability of employers to use the workers' services at these rates.

It is not my purpose to suggest that the problem of maintaining industrial prosperity could be solved merely by changes in the way in which prices are set and in the techniques of cost calculation which are used in the process. But I do not think a useful purpose will be served if my remarks have the effect of causing you to challenge more sharply the efficacy of some of these methods, in really providing security to the several companies, or the need rather of seeking security through means that lay greater stress on the maintenance of high productivity.

*Effect of Lower vs. Higher Prices*

At this point, you may very properly challenge me with the question: "Well, should cost estimates be moved down as operations approach full capacity? Would not such a practice leave us with no margin of safety just at the time when hard times overtook us?" Of course this begs the question insofar as it assumes that prosperity would go to the same unhealthy extremes and have the same disastrous break if a policy of price lowering were followed, whereas my analysis points to the conclusion that moving down prices more or less in step with declining costs would tend to temper the excesses of a boom period, stabilize operations on a level of larger volume at smaller unit profits, and thus render the accumulation of such large reserves unnecessary. In rather oversimplified form, my view might be stated thus: If you price on the basis of 65 or 70 per cent utilization of capacity, you will soon be back to that level or below. Only if you make your plans and prices on the basis of say 90 per cent of (practical, not theoretical) capacity can you hope to stabilize prosperity at full (again practical) employment and avoid the burden of high relief taxes and the disorganizations of compensatory spending.

Such a course, I recognize, would call for a considerable change in business thinking and practice. Not only are responsible executives inclined to be timid about reducing prices and narrowing the supposed protection of wide profit margins, but if they embark upon

such a course, they likewise run the risk of distrust by their bankers and enmity by their fellow executives. No one likes to be a spoil-sport or a kill-joy at the feast of a business boom. He may argue too that any action of an individual company can do nothing significant to stabilize the general situation and would simply be cutting itself out of the advantages of a good market. He may even rationalize the situation by saying that maintaining or even advancing prices is the wise course in times of extraordinary prosperity in order to put some brake on the excesses of a runaway boom.

I think there are basic flaws in this argument, and the real fact seems to me to be that at bottom genuine price competition runs rather counter to the business code. I have had business men themselves say to me: "Our competitors have no objection to any amount of money we want to pour out in advertising, to any added pressure we put on salesmanship, or to the rendering of any amount of service gratis with goods we sell. But if we start to cut prices, there is a universal howl of protest." The experience of Charles E. Wilson of General Electric in announcing a postwar policy of low prices fully to reflect potential productive efficiency, to enlarge purchasing power, and to sustain employment exposed him to attack which he himself is reported as saying made the punishment he took as WPB Administrator look tame.

*Standard Costs as a Basis for Price Making*

I want to make it clear that I have no quarrel with the use of standard costs as a bench mark from which to measure differences in efficiency between plants or between operating periods or even to use such costs as an indication of changes in the rate of profits, particularly if this figure be used as a guide to determine the time and amount of price reduction as a means of sobering boom psychology and stabilizing business activity. Furthermore, there would be no objection or danger to using costs so computed as a basis of price making if the ups and downs of business were relatively moderate and largely limited to swings that resulted from changes in technology or the phenomena of nature. But when the experience which is taken as the basis for determining normal capacity includes unemployment as high and plant utilization as low as those we saw in the thirties and of such extreme duration, then I say that the formula itself becomes a self-generating cause of severe depression. Furthermore, it takes on the character of a vicious spiral which

would move down and down until it took on the quality of chronic stagnation.

*Conclusions*

In conclusion, I want to make application of this general analysis to the concrete situation of the postwar period. If, with the background of the thirties in mind, standard costs are based on operation at normal capacity over the whole swing of that cycle, this would set costs high and provide for heavy accumulation of reserves against equally serious contingencies in the future. Indeed, in view of currently expressed fears, executives might feel it wise to plan for even more serious declines after a postwar boom. Furthermore, it is probable that, even if this resulted in setting prices high, decline of sales will not indicate that they are too high, because there will be an extraordinary ability of the mass of the population with large war savings to spend freely during these years.

In the interest of business itself, however, it seems to me highly important that this backlog of purchasing power be kept in the hands of the consuming masses to the largest extent possible. To absorb it quickly through prices calculated on the basis of rapid accumulation of large reserves in corporation coffers would impose a burden of heavy redemption of bonds on the U.S. Treasury, with unfavorable effects on the general business situation. It would likewise transfer reserves from the consuming public, where they would have a stabilizing effect on the future market for consumer goods, over into the ownership of corporations, where they are not needed in large volume for plant expansion; or they might be disbursed as dividends into the hands of the relatively small part of the population who could not disburse them fully and promptly, either in consumer expenditures or in investments that would be actively used for further production.

*Summary*

This, I know, does not give any trite answers to the practical problems met in individual businesses nor any simple formula for translating costs into satisfactory prices. I trust, however, that it may have opened up some fresh lines of thinking and that from following these lines during the very important developments of the next few years we may in some measure be helped to avoid certain pitfalls.

For convenience and brevity, most of what I have said can be ticketed under four broad propositions:

1. Just as soon as you write plant idleness (beyond that due to technical causes) into your cost sheets, you are headed for trouble.
2. Whenever management starts to throttle down output in order to maintain price, the business world finds its market shrinking as jobs decline.
3. Full volume output of the nation can be priced to match *current* incomes of consumers and must be so matched if we are to maintain prosperous conditions.
4. This requires that the product as a whole be priced at actual and necessary costs under the conditions of full activity. Output cannot be maintained at a higher level than that used as the average in your formula for overhead.

## CAPACITY, COSTS, AND PRICES

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IN THE PRECEDING article and in his book which bears the intriguing title, "Price Making in a Democracy—How Can Business Leaders Save Private Enterprise," Dr. Nourse argues that as long as industrial accountants base standard costs on a normal capacity which is exceeded during good times, they are helping thereby to bring about bad times. In a section of his book with the title "Cost Accounting and Supply Control," Dr. Nourse has this to say:

> If business is refused because cost estimates are inflated by unreal charges or if the cost analyst fails to show adequately the possibilities of cost reduction under fuller capacity operation or the cost influences of other conceivable changes in operation conditions, then the competitive process is interfered with and unnecessary idleness of both men and plant is likely to result.

This idea is more specifically stated in a footnote, which together with the comments in the preceding paper by Dr. Nourse will serve as the text for this paper. In the footnote to his book he says:

It is common to calculate costs (as a basis of price) on the supposition that plant will be used substantially below capacity, say 70 or 80 per cent. Instead of costs being recalculated and prices moved down when and if a closer approach to capacity operations is attained, profits mount rapidly after the "break-even" point has been passed and often rise almost fantastically as full capacity is approached. It is contended that no other costing and pricing procedure is "safe." In fact, however, the safety of this procedure is only nominal. Writing the burden of unutilized plant capacity into the cost sheets and maintaining prices so computed means that any approach to full utilization of resources will induce boom-time excesses followed by recession, which, in the absence of some new and powerful but extraneous stimulus, tends to become chronic in the form of business stagnation. This dilemma of capitalism lies at the crux of the problem of individual firm action and coordinated action by many firms.

Since this states the problem in the kind of figures to which we accountants are accustomed, suppose we take a look at them to see whether they carry in their unfathomed depths the fate of our nation, as Dr. Nourse believes they do. I, for one, know of no cost standards that at the present time are based on an activity of as little as 70 per cent of capacity but maybe Dr. Nourse does, so let us take that as a starting point. In his paper, Dr. Nourse states that he would have us substitute "something approximating full practical capacity, with every technically necessary allowance for unavoidable and justifiable seasonality, for the time needed for reconditioning plant, and for the incurable truancy of many members of the working force."

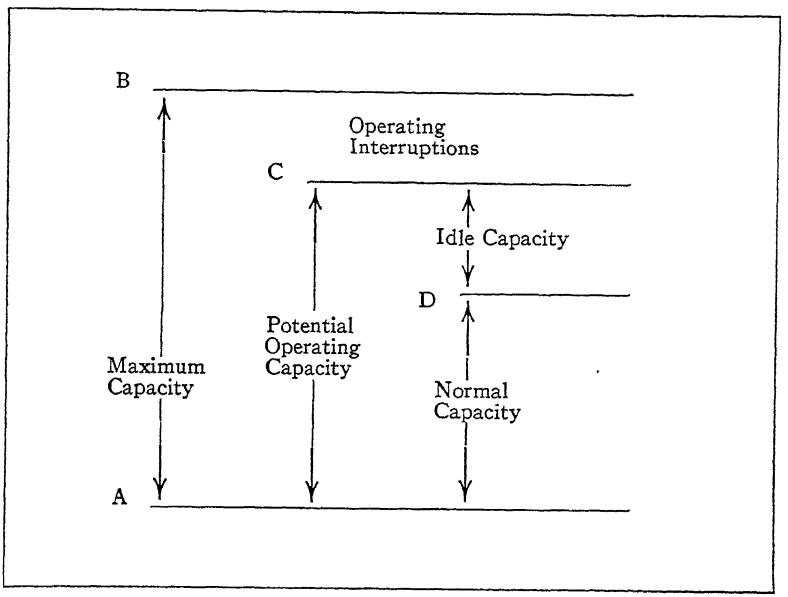
*Capacity Concepts*

There are many concepts of capacity, and to assure that we have the same concept in mind I want to quote three definitions from my article on "Measuring Plant Capacity," which appeared in the *N.A.C.A. Bulletin* for December 1, 1934:

1. *Maximum Physical Capacity*—The physical capacity of a plant to produce commodities or services when not limited by human factors and external influences may be described as a maximum physical capacity.
2. *Potential Operating Capacity*—This is the full, practical utilization of the physical plant indicating that a full load is being carried. In determining this capacity, allowance must be made for the unavoidable operating interruptions such as time lost for repairs, waits, breaks, set-ups, make-readies and clear-aways, machine failures, organization slips, unsatisfactory materials, delays in delivery of raw materials or supplies, and labor fall-downs and absences.

3. *Normal Capacity* is the utilization of physical plant that is necessary to meet the *average* commercial demands over a period long enough to level out the peaks which come with seasonal and cyclical variations.

The concepts are presented graphically in chart form below.




Apparently Dr. Nourse's concept of practical capacity differs from my concept of potential operating capacity only in the allowance he makes for "unavoidable and justifiable seasonality." An illustration of the influence of the seasonal factor is found in the dairy industry. The amount of milk available for distribution is greater in the spring and summer than in the fall and winter. In the period of high production the excess is converted into by-products such as cheese. During the period of low production cheese-making apparatus must remain practically idle.

It must be evident that any concept of full capacity operation must be modified by such practical considerations. The volume of production cannot exceed the amount which it is possible to make and sell, in season and out. So let us accept Dr. Nourse's concept of practical capacity and consider the mathematical effect on costs of using 100 per cent of practical capacity as a base instead of 70 per cent.

*Material and Labor Costs*

The problem, as every cost accountant knows, is to determine the reduction in unit costs which results from apportioning fixed overhead over a larger volume of output. To figure out the answer we shall assume that the unit costs are the same for the material and labor components at 100 per cent as at 70 per cent. For the most part they are. Look at materials first. It is conceivable but not likely that your purchasing agent might be able to get lower prices on certain materials which go into your product if you increased your requirements by more than 40 per cent, as you would do if you were figuring on 100 per cent activity instead of 70 per cent. It is worth looking into, but do not be disappointed if the result is negative.

Labor may be a more fruitful source of economy unless your unit costs are frozen under an incentive wage payment plan which gives the worker increased pay in direct proportion to his increased production. This is the case wherever workers are paid at piece rates or at a fixed rate per allowed hour or allowed minute as determined by the standard time per unit of product. As this latter basis is being more and more generally applied (I have even heard it called "The American System"), the chances are your labor costs will remain the same per unit regardless of activity until you find new methods, new equipment, or new materials out of which to make your product, which is not what we are talking about here.

Material and labor costs taken together are called "prime costs" in cost accounting lingo. If prime costs are to be the same per unit of product at 100 per cent as at 70 per cent, we may leave them out of the computation we are gradually approaching and deal with only the factors of overhead and profit.

*Profit Margin*

We shall have to assume that our profit is frozen for the sake of working out this problem. Frozen, that is, in total amount at both 70 per cent and at 100 per cent, but not frozen per unit of product. This presumes that the owners of the business will be happy to increase their output more than 40 per cent without recompense for the additional work, worry, and risk entailed; hardly a fair presumption, but let's stand on it and get along with our mathematics.

Take the simplest possible case of a company making a single

product selling at a uniform price, say $10. Before the war many companies operated profitably on a markup of less than 40 per cent, which means that after paying for materials and labor they had less than forty cents out of every dollar of sales for overhead costs and profits. If our hypothetical company has a markup of 40 per cent, or $4 per unit, at 70 per cent activity, at what price could it sell its product and carry its overhead and earn just as much total profit at 100 per cent activity?

Assume that it sells a thousand units a day at 70 per cent activity; then its present overhead and profit are $4,000 a day (1,000 × $4). At 100 per cent activity it would sell 1,429 units a day (1,000 ÷ 70 per cent = 1,428.67). If the overhead at 100 per cent could be the same as it is at 70 per cent, then the markup of $4 per unit could be reduced to $2.80 ($4,000 ÷ 1,429 = $2.80), and the selling price could be reduced from $10 to $8.80, a reduction of 12 per cent.

*Overhead Behavior in Relation to Volume*

But as a matter of fact at 100 per cent the overhead could not be held to the same total amount as at 70 per cent. We cost accountants all know that while some items of overhead cost are fixed in amount regardless of activity of production, some others increase and decrease in direct relation with the per cent of change in activity. Most of them, however, vary somewhat as operating activity goes up and down but not to the same degree. We know that some industries have a high percentage of fixed costs, viz., railroads, power plants, steel mills, glass factories, paper mills, and automobile factories. We know of others where the fixed costs are low, as, for example, the garment industry.

In our example, if overhead costs increased only $500, then the unit price could be reduced only 8½ per cent:

$$\begin{aligned} \$4{,}000 + \$500 &= \$4{,}500 \\ \$4{,}500 \div 1{,}429 &= \$3.15 \\ \$4 - \$3.15 &= \$.85 \\ \$.85 \div \$10 &= 8\tfrac{1}{2}\% \end{aligned}$$

But it is manifest that an 8½ per cent reduction in price will not release enough buying power to purchase the 42.9 per cent increase of output on which it depends. To put it the other way around, if we are to reduce our price to $9.15 from $10, we shall have to sell 1,429 units a day instead of 1,000. We shall have to find enough

customers to spend $13,075 (1,429 × $9.15), instead of $10,000 (1,000 × $10), for us to come out as well as we have been doing. Thirty per cent more in sales dollars must flow from 8½ per cent reduction in price.

*Cumulative Effect of Cost Reductions*

Perhaps, however, as Dr. Nourse suggests, this is only one link in the chain. American enterprise may be like the old woman in Mother Goose who couldn't get home for dinner because her pig wouldn't jump over the stile. Not until the old woman had gotten the cat a saucer of milk did the cat begin to kill the rat, so that—

> The rat began to gnaw the rope;
> The rope began to hang the butcher;
> The butcher began to kill the ox;
> The ox began to drink the water;
> The water began to quench the fire;
> The fire began to burn the stick;
> The stick began to beat the dog;
> The dog began to bite the pig; and
> The little pig in a fright jumped over the stile.
> So the little old woman did get home that night after all.

Maybe if we can get all the business men to base their prices on a markup which must be sustained by 100 per cent activity, we shall be able to buy our materials from our suppliers for much less. If we assume that this same 8½ per cent reduction in price can be obtained by each processor right back to where old Mother Nature produces the raw materials, how high would the price reduction pyramid by the time it reached the ultimate customer? Shall we begin with the farmer or miner, who has little if any raw material cost? If he hands an 8½ per cent reduction to his customers, they in turn can reduce their prices by 8½ per cent of their raw material costs. If we assume that this is 40 per cent of their total sales dollar, they now have 8½ per cent of 40 per cent or 3.4 per cent more to add to their own 8½ per cent for overhead saving, a total reduction of 11.9 per cent. A saving in material costs to the next processor or distributor of 11.9 per cent would permit him to pass along 11.9 per cent of 40 per cent or 4¾ per cent plus 8½ per cent or a total of 13¼ per cent. But at this rate of progress in price reduction there certainly are not enough links in any chain from farm or mine to consumer to yield the 42.9 per cent increase of output which Dr. Nourse insists

we need, nor half of it. If now we discount the theoretical extreme of 100 per cent average activity on which this pyramid of speculative reductions is based, to make it practical of application, I question whether we should have enough left to talk about. At all events this myth of drastic cost reductions obtainable from increases in volume of production above 70 per cent of capacity disappears in the light of a simple mathematical calculation.

*Attaining Maximum Physical Production*

Let no one assume from what I have said here that I do not recognize the good which comes from full employment of productive capacity to the country at large as well as to the individual company, for which it piles up profits so fantastically as to make the good Dr. Nourse shudder. The more people we can employ in production the fewer we shall have to support by taxes and the more products we shall have to accelerate the consumers' pursuit of happiness. According to the latest estimate I have seen, industry's total quota of national employment should be about eighteen of the sixty million who must work for a living after the war. Many better minds than mine are working on ways and means to accomplish this goal, and I say more power to them. But there is one obstacle in the way of obtaining full use of production facilities which Dr. Nourse has not overlooked but to which I believe he does not attach sufficient importance. Away back on page 438 of his book, where I might have missed seeing it if I had not read right through to the end on page 449, he says:

> Maximum total production must be maintained if profits are to attain their maximum total in the long run. The profit motive may defeat itself if so much of the proceeds of current operation is allocated to capital formation that the consumer market provided is not adequate to absorb the product of so large a plant. Without such absorption the new capital proves to be sterile or the earning power of both old and new capital is needlessly reduced.

Undoubtedly the Brookings Institution knows more about America's capacity to produce and to consume than I shall ever know. But it seems to me that everywhere I look I see more productive and service facilities than could be kept busy even if everybody had everything he wanted. At least that was the case until the war came on, and there may be again after it is over. We had more filling stations than were needed to service all the cars and trucks in the

country, and more milk wagons than were needed to deliver milk every day at every door. We had bakeries that could bake more bread, pies, and cakes than everybody could eat if none went hungry; so many envelope factories we could not use up all the envelopes they could make if we had done nothing but write letters and mail them. Surely there is often less current demand than is needed to keep all suppliers busy. If then the prevailing demand does not appear equal to our existing productive capacity, we have to base our costs on the volume we expect we can sell. In trying to get facts on which to base our sales forecast we must not interchange too much information with our competitors, or the Supreme Court will send us to jail for violating the Sherman Act. Under such restrictions, unless we are just naturally reckless, we shall be careful not blindly to overestimate our prospective sales when we are planning our financial budget. We accountants know from bitter experience the penalties which follow from anticipating profits and spending them before they are earned. If it follows from our abundance of precaution that we are accused of restricting America's full capacity to produce, we can reply that some underuse of capacity is the price we pay for free enterprise and uncontrolled competition. A low price it is too, when the alternative is considered.[1]

*Costs and Prices Not the Only Factors in Distribution*

To argue that we must get our cost standards down by basing them on hopes for high volume in order to minimize prices is not only misleading, as I have demonstrated here, but it is also oversimplifying the conduct of business. While price is a potent factor in selling, the lowest price does not always run off with the order. The "man from the home office with a lower price" is not always the

[1] In his latest book, which is a plea that we should jump out of the frying pan of capitalism into the fire of state socialism, George Bernard Shaw presents the predicament of blind competition with characteristic overstatement. He says:

"When a hundred people want a hundred pairs of new boots, and ten competing shopkeepers, each hoping to secure the entire sale, order a hundred pairs from the boot factories, who will accordingly manufacture a thousand pairs, nine hundred of these will be left unsalable on the shop shelves. Until nine hundred people wear out their boots and buy up the superfluous pairs the shops give no further orders to the factories; and the factories have to discharge their workers and add them to the unemployed. Hence we get the cycles of overproduction followed by unemployment and trade depression, the booms and slumps, the crises and recoveries, which are characteristic of the capitalist system and are dreaded economic nuisances." *Everybody's Political What's What* (New York: Dodd, Mead & Company, 1944).

master salesman. Quality, design, service, responsibility, reputation, and friendship all play their important and sometimes controlling roles. The mood of the buyer is no less a factor. A chap with ten dollars in his pocket and a hot tip on the third race at Pimlico cannot be interested in a ten-dollar radio, even if you offer it to him for eight. But if his horse romps home a winner at ten to one and you catch him first, you can get him to buy the best radio in the shop for the little girl at home regardless of price, and make a first payment on it of fifty dollars in cash. He will protest long and loudly against a 10 per cent increase in the price for his monthly commutation ticket but show an exhibitionist's pride in succumbing to the blandishments of a hat-check girl when she turns on the heat to get her tip increased from a dime to a quarter, a 150 per cent increase in a price that was too high to begin with.

Even deceitful salesmanship is often more effective than price appeal. A woman shopping in a Chicago store explained that she was in a dilemma as to whether to choose the radio with the handsome cabinet or the nationally known radio for what she thought was its superiority of tone. The salesman said to her, "Lady, I'll tell you something, which is a trade secret and you must promise not to tell I told you. All our best radios are made in the same factory. They are just sold under different names. See, I'll show you the manufacturer's shop number on both of these. Look at this one, 110 V 60 cycles. Here it is, the same identical number on the other one, 110 V 60 cycles." So she trustingly bought the radio in the handsome cabinet and was happy to pay a higher price because she got the same instrument in a more beautiful cabinet, as she thought.

In America, and the farther west the more so, we like to think we do business on the one-price basis. Our published price lists tend to prove it, and we put laws on the statute books to compel it. But let an oversupply of merchandise hit the market and you may look for secret price cutting. Before the war the only car buyer who couldn't get a cut price was the man who wanted to pay cash. In 1941 I turned in my old car on a new one and was allowed $350. I bought it back for $200. Then the salesman who sold me the new car sold my old one to somebody else for $325, for which I paid him a commission of $16.25.

Even with the best intentions in the world price makers cannot control prices against overwhelming odds of competition, which they must meet on every hand, not only from sellers of the same type of

products, but also from those who sell products which offer alternative attractions to the limited purchasing power of their prospective customers. Ford has not only to meet the competitive price and quality offered by Chevrolet and Plymouth, but also to overcome the counter-attraction of home buying, keeping a maidservant, or saving for a rainy day.

*Summary*

All of this may be conveniently summarized as follows:

1. The effect on unit costs of variations in volume of output after a normal range of operating activity is reached is much less than many people think.
2. Price reductions made possible merely by increased production would not release enough purchasing power to buy the increased output.
3. Nobody has yet been smart enough to run a business successfully in defiance of the law of supply and demand.

"There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy."

## PRACTICAL CAPACITY VS. NORMAL CAPACITY

(A Rejoinder by Dr. Nourse)

MR. JAMES' interesting commentary is devoted to making two points: (1) the traditional practice of making normal cost the determiner of industrial prices is correct and adequate; (2) competition sets prices anyway, under the automatic operation of the "law of supply and demand," and cost formulas are so much "horse feathers" so far as actual selling is concerned. To maintain one's logical balance on both these propositions at once would be a difficult feat.

If the second proposition were really true, then business managers might as well fire their cost accountants or a large proportion of them and rely entirely on the trial-and-error method of pricing. As for myself, I attach more importance than this to the work of your profession. Besides many uses it has in the operative control of a business, I believe that it has a major role as an indispensable compass to guide the top executive in his navigation of the economic

high seas. If I have seemed critical of some phases of your work, it has been simply because I believe that a broader concept of your task and deeper insight as to the interplay of economic forces in the price process will safeguard your technique against the distortions of the old magnetic compass and advance it to the scientific dependability of the modern gyro.

*Modifications in Price Structure*

All of us recognize the truth of the observation that "the lowest price does not always run off with the order." The waters are muddied, however, by presenting "quality, design, service" as separate from price. Higher quality, better design, and added service mean that the product has been changed, in most cases added costs incurred, in all cases more utility delivered. A stepped-up product is the equivalent of a stepped-down price. Also it is obvious that sales are easier to the buyer who has made a killing at poker or has brought home a long shot at the races (and harder by at least as much among those who lost). But these are not the stuff on which stable industrial markets can be built. We can admit also the vagaries of hat-check tips and the occasional success of crooked salesmanship and still remember that it is the more basic aspects of the price system which we are trying to analyze.

Finally, it is of course true that nominally standardized prices for cars are often shaded through trade-in values and that prices of many wares are cut for clean-up purposes in remnant sales, bargain basements, and off-season clearance. A period of deep depression will bring on still more price cutting in many lines but by no means all. Likewise, high prosperity will run up some prices, but by no means all, out of all normal relation to costs. But all these corrective and emergency phenomena represent the exceptions that prove the rule of administered price making, in which cost calculations constitute a recognized and important factor in managerial technique.

*Supply and Demand*

I do not believe that my writings taken in their entirety give ground for the innuendo that I am unaware of these practical realities of everyday market behavior. I could supply a long list of citations where I have dealt with them as preliminary to discussion of the more basic issues or as the minor theme that must run along with the major theme of how basic prices are arrived at by business executives,

and the results, good or bad, that flow from the use of one or another kind of price formula. If results are to be good, those formulas must be based on challenging and constructive, not routine and worshipful, use of cost accounting and cost analysis.

I am not quite sure why Mr. James thought it necessary to admonish me that, "Nobody has yet been smart enough to run a business successfully in defiance of the law of supply and demand." That is one thing every professional economist may be presumed to know. Its full meaning in the modern industrial setting is precisely what I have been trying to get at in all my recent writings. In an address, "Prices and Jobs," before several regional conferences of the National Association of Manufacturers last October, I concluded:

> The gist of my whole speech can be stated very briefly and in terms consistent with familiar business thinking. A favorite saying of business men is, "You can't beat the law of supply and demand." Right. But the law of supply and demand doesn't operate automatically or in a vacuum, but under the guidance of responsible business executives. Under the system of private capitalism, business men as a group are called upon to organize the skilled and able labor force of the nation with its abundant and efficient capital plant so efficiently that neither of these rich resources will to any large extent run to waste. Such a production setup will produce a tremendous *Supply* of consumer goods and services year after year, its flow subject only to the moderate ups and downs of business that spring from technical causes. But to achieve such an end, this volume of supply must be matched against the market *Demand* that comes from the current income dispensed to the people whose work or whose property is used in providing the goods. Unless prices are low enough to move the whole product promptly into consumptive channels, jobs decline and the whole system of private business direction is in trouble. You can't beat the law of supply and demand.

Evidently, Mr. James is a fundamentalist who thinks there is one rigid and uniquely applicable law of supply and demand, which automatically guides prices to the right point regardless of the positive acts or the resistant struggles of men. I have sought to point out that the basic principle that prices reflect the proportionality of supply factors and demand factors still operates in administered price making, but that it produces quite distinctive results in our modern business age, when the executive of a company representing some 2 billion dollars of assets and employing some 400,000 workers decides on the postwar price basis for his company in the light of certain cost calculations, assumptions, and theories, and then furnishes such a supply as the market demands *at that price.*

I cannot believe that many cost accountants will join Mr. James in

his second proposition that industrial prices are made either deterministically or opportunistically by "the law of supply and demand" and that therefore there is no real problem of "cost finding and price determination" such as I took for the topic of my paper. Since even he is willing in his *alter ego* to take that issue seriously enough to try to set me right in the reasoning that it involves, we will turn now to the first part of his paper.

*Concepts of Normal Capacity*

Here the problem of brief rejoinder is difficult because Mr. James (very legitimately) ties the specific points back to a broader discussion of the whole problem in *Price Making in a Democracy* and even to my equally big book of ten years ago, *America's Capacity to Produce*. The nub of his quarrel, however, seems to be that, in adopting that measure of capacity which shall be taken in calculating the price formula, I take too high a figure, the economically potential capacity instead of the commercial normal of capacity.

Since the problem I have been analyzing, and which all true friends of private business must seriously consider, is how to evolve such prices as will be compatible with and positively make for sustained high-level employment, the only concept of capacity which is pertinent to my calculations is the potential volume of production practically attainable through the most perfect adjustment of price, wage, and profit relationships. By taking the commercial "normal" Mr. James contents himself with all the waste and maladjustments that happen to exist in whatever period he may elect to use as his base period. The essence of this vital distinction is lost somewhere between Mr. James' second and third definitions since in the second he makes no references to even technological seasonality and his third includes commercial as well as technological seasonality and cyclical variations—both avoidable and unavoidable—as well as all kinds of seasonality. It is not a correct translation of my qualifying phrase "unavoidable and justifiable seasonality" to point to the biological up and down in the milk flow as determining practicable utilization of capacity in the dairy industry. Failing to note these essential distinctions, he "goes off the deep end" by saying that the "normal capacity" taken as the basis of normal costs "cannot exceed the amount which it is possible to make *and sell in season and out.*" The italics are mine, and I gather that "in season and out" means also in cycle and out.

Since Mr. James puts these words in my mouth by saying, "Let us accept Dr. Nourse's concept of practical capacity," whereas my expression "unavoidable and justifiable seasonality" means something very different, his elaborate and ingenious numerical example is utterly beside the point. It relates entirely to a closed system, one in which resources are assumed to be fully employed or in which the issues of technological changes are not raised.

*Profits and Wages in Relation to Productive Capacity*

I would concede at once that the mere marking down of prices as an arbitrary act does not release a sufficient amount of purchasing power to make this a practicable, much less a beneficial, procedure. But what is really released by an economically sound pricing practice is not some small fraction of current purchasing power but the wage-earning power of that part of the population which is kept from employment in depression times or during more chronic stagnation by a withholding price for capital use which includes a "safe margin" charge for a possibly idle plant. Mr. James starts out by saying that "for the sake of working out the problem," we must assume that total profit for the company is frozen. But that begs the whole question. The particular point of my paper and the related passage in my book was that total profits of a given period are too high if they include costs of cyclical idleness brought on or aggravated by the drying up of purchasing power. The thing is a vicious circle, and I was trying to point out that *one* important part in breaking that dangerous chain of calculation and action depends upon developing a more penetrating technique of cost analysis and more flexible arrays of cost formulas and adaptive practices.

Mr. James fatalistically argues that we have "more production and service facilities than could be kept busy even if everybody had everything he wanted (and since) the prevailing demand does not appear to equal our existing productive capacity, we have to base our costs on the volume we expect to sell. . . . Unless we are just naturally reckless, we shall be careful not blindly to overestimate our prospective sales when we are planning our financial budget." Competent opinion is pretty well agreed that "if everybody had everything he wanted," we should need much more plant and equipment than we now have, though undoubtedly there are serious instances of duplication and frequent cases of poor investment judgment in the hurly-burly of dynamic industrial life. But that we must struggle along

under a burden of excess capacity, NO. Mr. James thinks business men can meet their practical problems by offsetting the deficiency of "prevailing demand" through loading the costs of idleness onto current selling prices. But this only makes matters cumulatively worse. If the nation's total plant had in fact outrun possibilities of productive use within a reasonable future period, the real remedy would be to lower the profits lure to further capital accumulation and expedite the attrition of the presently redundant supply by reducing maintenance allowances and diverting this saving to the stimulation of consumption through price appeal.

*What Price "Free Enterprise"?*

I do not urge any business man "blindly to overestimate prospective sales," but I do urge him not blindly to underestimate potential sales if prices are set in advance on the basis of high-level employment and high utilization of plant and practicably full employment of the labor force. Mr. James indicates that such skillful forward planning by industrial management would connote "natural recklessness" and that every manager should dig into his private pillbox of financial safety. I argue that he must take the "calculated risks" that are the essence of private enterprise in an interrelated industrial society. He considers "some underuse of capacity"—such idle machines and idle men as we have seen, I suppose—as a "low price for free enterprise and uncontrolled competition." I think it is the high price of palsy of enterprise and the short-sighted quest for individual security under conditions of large-unit competition, a price so high and so palpably unnecessary that its repetition would not be tolerated long by the public.

The economic argument lying back of this view is much too long to repeat here. Nor should that be necessary since it is set forth quite fully in my recent book and in the earlier volume *Industrial Price Policies and Economic Progress*. I should, however, like to emphasize the dangers of trying to make the individual company, particularly the large corporation, safe by accumulating "ample" depression reserves, however designated or disguised. I could hope also that those who have a serious interest in the subject would give due consideration to what was said in *Price Making in a Democracy* on criteria of price policy, particularly long-run profits through sustained employment, and note also the section on "economic solidarity" in the closing chapter.

The accountant has a good horse for the business executive to ride —his technique of record-keeping, cost analysis, and formulation of a price base. But this horse must be kept straight on the road to scientific efficiency in the utilization of available labor and capital resources. The economist has a good horse too in the time-honored principle of supply and demand equilibration through price. But he likewise must be kept headed straight down the line of sound relationships in a free market for unfettered enterprise. He must not stray off toward the byways of price maintenance for some business executives who happen to have special opportunities for supply control.

I do not believe in fact that my particular exposition of these harmonies plumbs "unfathomed depth" or "carries the fate of the nation." All I can hope is that the issues I have raised and the approaches I have followed in analyzing them may be found by some business men to yield better insight into how private business can better conduct its own affairs.

## PRICE CUTTING IS NOT THE WAY OUT

(Mr. James Sticks to His Guns)

IT IS OBVIOUS from Dr. Nourse's reply to my analysis of his proposals that he is not a cost accountant. He has not comprehended the significance of the cost figures I presented to show the results in a typical case of the practical application of his theory. The point I tried to make clear was that after 70 per cent utilization of plant capacity is reached, unit costs decrease very little from that level on up to 100 per cent. So even if a business man were willing to hand over to his customers in the form of price reductions the entire saving in costs to be obtained from increased volume of sales, this price reduction would not produce the increase in sales volume from which it must be derived.

Let me illustrate the case in another way, and I am done. General Motors Corporation does not reduce the price of its Buick car by 33⅓ per cent in order to sell more Buicks, because its sales manager knows that even if this reduction produced enough more buyers to take all the cars the Buick factory could produce the resultant reduc-

tion in their cost would not equal his reduction in price. Instead, General Motors Corporation builds and sells a cheaper car, the Chevrolet, to meet the demands of buyers who cannot or will not pay the price for a Buick. And the reason is this—the Chevrolet is cheaper to make than the Buick and, therefore, can be sold at a lower price principally because the material and labor entering into its construction cost less, and only slightly because Chevrolets are sold in larger volume than Buicks.

## RECOVERY IN PRICE OF PLANT COSTS

### FINANCIAL ACCOUNTING APPROACH

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IT IS FAIRLY well recognized as axiomatic that financial accounting is based on cost. In the broad sense, the term "cost" in accounting is a historical fact of the outlay of cash or its equivalent; in its specific application to industrial activity, it is the expenditure of money or incurring of liabilities either (1) to acquire facilities in which and with which to produce or (2) to provide the direct and indirect elements of the stream of production which terminates in finished articles or services sold to customers.

*The Cost Presumption*

A primary proposition in financial accounting is, therefore, that costs are historical in nature. Once a cost has been incurred, nothing that happens later can alter that fact. Thus, the term "cost" is associated solely with expenditure and is not synonymous with value except to the extent that cost and value are presumed to coincide on the date that the expenditure is made or contracted. Financial accounts therefore are designed to deal primarily with transactions in terms of cost and, in basic principle, do not deviate therefrom except to recognize the earning of profit through the process, and at the time of sale. This concept of the function of financial accounting as a record of investment is aptly illustrated by a definition submitted by the Institute of Chartered Accountants in England and Wales to the English Company Law Amendment Committee in December, 1943:

> The function of a balance sheet may be stated briefly to be an endeavor to show the share capital, reserves (distinguishing those which are available for dividend purposes from those not regarded as so available) and liabilities of a company at the date as at which it is prepared, and the manner in which the total moneys representing them are distributed over the several types of assets in which they have been invested. A balance sheet is thus an historical document and does not as a general rule purport to show the net worth of an undertaking at any particular date or the present realizable value of such items as good will, land, buildings, plant, and machinery, nor, except in cases where the realizable value is less than cost, does it normally show the realizable value of stock in trade.

Costs once incurred usually have a limited period of significance and thus are said to expire as their usefulness is realized. To the extent that they are deemed to have expired, costs appear in the income statement; to the extent that they are unexpired, they appear in the balance sheet and are carried forward to the subsequent periods in which they will ultimately expire. Financial accounts, through this process of charging out cost expirations to operating periods, match the sum of such costs against the revenues or income realized in such periods. Essentially, cost accounting is the subdividing of the process of measuring cost expiration, reducing it to terms of the expenditures or costs allocable to units of product or of operation. Inasmuch as it is the objective of business in a capitalistic economy to earn a profit, the selling prices of articles produced or services rendered are, to the extent practicable, fixed at amounts which will not only recover the expired costs allocable thereto but will realize an additional margin or return to the enterprise.

*Depreciation Accounting*

The expenditure of an enterprise for its productive plant and facilities is clearly a cost, to be recovered in the selling prices of articles produced. The process of recovery is comprehended by the term "depreciation accounting," one of the most satisfactory definitions for which is the following:

> Depreciation accounting is a system of accounting which aims to distribute the cost or other basic value of tangible capital assets over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner. It is a process of allocation, not of valuation.[1]

The distribution of the investment in productive plant over the estimated lives of the respective units "in a systematic and rational

[1] American Institute of Accountants, *Accounting Research Bulletin No. 20,* November, 1943.

manner" implies also, in cost accounting, an allocation of such amount to units of production or service. This is true whether the method of charging depreciation [2] is one which distributes it directly as a specific charge to such units or indirectly by means of a periodic allocation of expired cost which is included with other indirect charges and apportioned therewith. Thus it is that the selling price of any article manufactured or service rendered contains a charge for some fractional portion of the investment in productive plant, however minute and however indirectly it is allocated.

In this definition of depreciation accounting, two factors are suggested as being required in the process of determining periodic allocations (and from such, the unit allocations) required in order to recognize in production costs and in selling prices the expiration of productive plant:

a. The amount representing the investment (cost or other basis).
b. The period of usefulness and the manner of allocating the investment over such period.

Despite the fact that financial accounting is normally on a cost basis, as has been described, it is here evident that there are circumstances which may permit the use of some other basis for the allocation of productive plant. It is the purpose of this article to inquire into such alternatives and to consider their acceptability as substitutes for cost in the pricing process.

No particular consideration is given herein to the method or mechanics of the allocation to operating periods or to units of production. Accountants readily recognize that these "diminutions or partial expirations of cost not subject to precise measurement must be determined largely upon the basis of business experience and expert opinion rather than by rigid formula. In each industry and in each enterprise reasonably consistent policies and procedures need to be developed. In the case of depreciable or amortizable resources the minimum requirement is that the cost of each asset be spread as uniformly as possible over its productive life." [3] The question of whether the straight-line method of allocating fixed asset costs as between fiscal periods is superior to the replacement-reserve or

[2] The term "depreciation" is used herein as including not only the similar term "amortization" as applied to plant but also the elements of obsolescence, inadequacy, or other functional disuse, which are considered for this purpose to be among the factors measuring the useful life of productive plant.

[3] "Accounting Principles Underlying Corporate Financial Statements" prepared by the Executive Committee of The American Accounting Association, June, 1941.

annuity methods of depreciation or some other type of calculation is a matter more of theoretical preference than of accounting principle and is accordingly not considered herein.

*Deviations from Cost*

What may appear to be a thoroughly elementary recitation of this cost concept in financial accounting is particularly necessary as a groundwork for consideration of the possibilities of deviation from the general rule. If, as one learned accounting authority has stated, "the precept that fixed assets shall not be carried at more than cost (is) one of the best established rules of accounting," [4] then it is readily evident that the financial accounting approach does not lightly concede the right of substitution for cost as a base for the allocation and recovery of productive plant in selling prices. Putting it in other words, if cost is an historical fact not affected by subsequent events, it becomes a rather inflexible subject for the accountant and cannot at mere convenience be disregarded or supplanted by another base.

In this respect, the financial accounting approach ignores the economic understanding of cost, which in the case of productive plant might be defined as the destruction of utility or value resulting from the production operation. Obviously, the measurement of cost under this economic concept is one which can and does vary from day to day as a result of the interplay of forces which determine economic values; in this sense, true economic cost is almost never calculable currently and is therefore within a wholly impractical realm of speculation into which accountants, in their practical existence, dare not enter. Occasionally allied to economic cost of property use, but nevertheless dissimilar, is the engineering concept of "actual depreciation," which has been defined as the "true loss of value of property units during service as determined by . . . observed facts." [5] This procedure is merely one of allocation, being an attempt to apportion the cost of producing assets to the produced assets according to scientifically determined observations of actual wear and tear as distinguished from the use of mathematical formulas for that purpose. This idea does not necessarily alter the cost basis but merely aims at a theoretically precise way of allocating such cost.

[4] George O. May, *Financial Accounting* (New York: MacMillan & Co., 1943), p. 39.

[5] *Cost Accountants' Handbook*, ed. Theodore Lang (New York: The Ronald Press Co., 1944), p. 1194.

*Types of Deviations from Cost Base*

With this explanatory preface, it is possible now to give consideration to the specific types of deviations from the cost base that are sometimes suggested as appropriate in this problem of dealing with productive plant and their bearing upon price. Under what circumstances should the unrecovered cost, meaning the total original investment reduced by the amount of cost already recovered in the price of articles previously sold, be supplanted by a new base for allocation to subsequent units of production and consequent recovery in selling price? Among the principal possibilities which have been advanced from time to time by those who have delved into the intricacies of accounting theory are these:

1. That, at the time of a reorganization or quasi-reorganization (or following a merger or consolidation), fair market value may be substituted for unrecovered cost.
2. That when the fair market value of productive plant is determined to be materially in excess of, or materially less than, its unrecovered cost, the former may be substituted.
3. That when, because of the use of erroneous expiration rates in the depreciation accounting, the accumulated reserve (cost recovered) is found to be materially excessive or materially insufficient, the amount thereof should be adjusted by an entry to surplus to recognize a revised calculation of accrued depreciation at new expiration rates, and future charges should be based on such new rates.

*Reorganizations and Quasi-Reorganizations*

As to the first circumstance, there is little difference of opinion. Accepted principles of financial accounting recognize the validity of the substitution of a new base for productive plant following a formal reorganization or a so-called quasi-reorganization. The latter term, while not well defined in accounting literature, is generally recognized as meaning the consummation by accounting means, in lieu of reorganization but with formal approval of the parties whose rights are affected thereby, of corporate readjustments involving restatements of the assets and of the interests of stockholders and/or creditors. Reorganization and quasi-reorganization have the same objective, which is to accomplish a "fresh start" for a business and to provide adjustments of capital and of asset values to amounts comparable

with those which would be recorded upon initiation of the same venture at that same time. In this process current value is therefore substituted for unrecovered cost and thereby becomes, in effect, a new cost to a new enterprise.[6] This being the case, the recovery of productive plant in selling price thereafter should be the result of allocating such new "unrecovered cost" over the units of subsequent production. The same reasoning seems to be generally recognized as applicable in case of a merger or consolidation, which is the inauguration of a new entity to succeed two or more existing entities.

*Substitution of Fair Market Value*

On the other hand, it is not generally accepted as a principle of financial accounting that it is proper to substitute a new base for cost solely because the unrecovered balance thereof at a given date is materially in excess of, or less than, the current value. While cost and value are understood to be equivalent at the date of acquisition of an asset, it is readily evident that they may quickly tend to deviate. Depreciation accounting, it will be remembered, was defined as a process of allocation, not of valuation. Under depreciation accounting, the recorded cost is reduced periodically by depreciation provisions to reflect factors of use and deterioration under a method of allocation which does not contemplate that the remaining or unrecovered amount should correspond at any time with any concept of value. In fact, the value at any subsequent date may vary greatly from that at acquisition as a result of a change in the purchasing power of money, or such other forces as physical growth, economic development, solidification, changes in styles, changes in demand, et cetera. The impermanence of any recognition of a change in base to reflect a newly determined value arising from any or all of such factors is in itself a total objection to such recognition in accounting. Furthermore, the experience resulting from the optimistic write-ups of property in the 1920s and the contrasting pessimistic write-downs of property in the 1930s has brought professional and public dis-

[6] Reorganization usually occurs as a means of alleviating financial distress or inequity in capital structure, with the result that reorganization adjustments of cost, when required, are almost invariably downward. Inasmuch as the quasi-reorganization is merely a more convenient substitute for reorganization, the author does not believe that it should be used as a means of writing up unrecovered cost to higher values except when, in a necessary readjustment of creditor and/or ownership interests, such higher values are recognized in the plan and provide the measure of the readjustment.

respect for both practices. Clearly, the recognition of fluctuations in value has no place in accounting.[7]

It must be conceded that not all accountants agree unqualifiedly on that conclusion, and that there are a few who argue that a material change in value which is likely to persist should be recognized in the balance sheet and thereafter in depreciation charges. It seems appropriate to challenge such a suggestion by raising the question of the relative significance of the balance sheet as compared with the income statement. While in the earlier days of financial accounting the greater respect was accorded to the balance sheet because of its apparent representation of "net worth," that emphasis has been shifted to the income statement on the premise that the collective worth of the net assets of a business is best evidenced by their earning power. The English definition quoted earlier herein supports this conclusion; if a balance sheet is merely a statement of unrecovered investment in assets, and only incidentally or accidentally portrays value, any attempt to adjust the investment amounts to a momentary measurement of value would destroy the significance of both the balance sheet and the subsequent income statements. It is well known that in reorganization cases earning power is considered to be the only real test of the worth of a business, and that so-called book values are meaningless. The same is true in the evaluation of a going business for purpose of sale or of distribution of securities in the market. This being true, it is hard to see merit in the proposition that asset amounts should be written up or written down by any step short of quasi-reorganization and only then when a "fresh start" is fully necessary because of capital exigencies. The purpose of the income statement, it is submitted, is to establish income in relation to actual investment, not in relation to or affected by some fictitious and impermanent concept of value, however seriously determined, which can fluctuate within wide limits within a short period of years. The experiences of the years 1929 to 1932 or the years 1933 to 1936 prove that. The greater the frequency of such value determinations, the

[7] Despite the positiveness of the statement that the appreciation of tangible assets is now discredited, there are still a number of companies whose accounts continue to reflect write-ups originating in prior years. This fact has led the Committee on Accounting Procedure of the American Institute of Accountants in its Research Bulletin No. 5 (April, 1940) to require that in cases where appreciation has, in fact, been recognized on the books the charge against income for depreciation should be computed on the new and higher values. In such a case, the cost accounting recognition of the depreciation of productive plant should, of course, correspond.

less would be the usefulness and meaning of the income statements to which the expiring portions of such values were charged.

*Correction of Previous Depreciation*

The third suggested circumstance for deviation from "unrecovered cost" is not a modification of the cost principle but a retroactive correction of the accumulated depreciation charges and is advocated on that ground. At the moment, the consensus among financial accounting authorities seems to be in favor of the permissibility of such adjustments, although there are some cogent viewpoints to the contrary. A full consideration of some of the expressions on this phase, pro and con, may well be enlightening.

The argument for adjustment of previous computations of depreciation is ably expressed by one author, in illustrating the case in which fully depreciated property is retained in use, as follows:

> *Treatment of Fully Depreciated Property.* Depreciation computations should be modified wherever circumstances make it clear that this is advisable, and retroactive adjustment of the amount accrued is desirable. A special situation calling for adjustment is found wherever plant is fully depreciated on the books but is nevertheless continued in service. Many accountants seem to be reluctant to recommend restoration of any appropriate element of cost in such circumstances, but this attitude can hardly be justified on the score of conservatism or any other basis. If plant assets are actually functioning, the fact that their cost has been fully absorbed in earlier periods does not warrant understatement of the current depreciation charge; neither is it sound accounting to report no net value for such property in the balance sheet. The proper treatment is to charge the allowance for depreciation and credit surplus with that amount of the cost of the plant units in question which clearly is assignable to future operations. Such an adjustment, it may be insisted, does not constitute a questionable write-up of asset values and surplus. It is purely a correction of entries made in good faith in the past but now found to be in error.[8]

A further expression of this viewpoint, from another source, reads as follows:

> The end sought . . . is that the product turned out by such an asset should continue to be burdened with a normal depreciation charge, so long as it continues in service. Unless this is done, no proper basis is established for comparing own with competitor's costs, nor is a proper basis furnished by the accounts for fixing a sales price of product, for product must normally bear a depreciation charge.[9]

[8] W. A. Paton, *Advanced Accounting* (New York: The Macmillan Co., 1941), p. 269.

[9] Roy B. Kester, *Advanced Accounting* (New York: The Ronald Press Co., 1933), p. 304.

It is not certain that this reasoning is infallible, or that it should be applied uniformly to produce either upward or downward adjustments of unrecovered costs. One of the extreme illustrations sometimes considered in this connection is that of a modern efficient war plant written off to zero by amortization charges (under a certificate of necessity) as contrasted with an older and less efficient plant only partly depreciated but probably ready, under competitive conditions, for replacement. Obviously, if the depreciation to be recovered in selling prices is determined without any adjustment, the products of the former would bear no charge whereas the products of the latter would bear a high charge. The suggestion that the products turned out in any plant should bear a "normal" depreciation charge in order that costs may be comparable to those of competitors would apparently require that (1) the company owning the efficient plant should cancel out a portion of its accumulated amortization reserve and credit it back to surplus and (2) the company with the inefficient plant should increase its depreciation reserve by a charge to surplus in order to recognize a new schedule of cost expiration. Thereafter each company would recover in its selling prices a "normal" depreciation charge representing an allocation of the actual cost of its productive plant over the newly determined period of expiration.[10]

[10] The argument of providing for cost comparability is sometimes used in support of the suggestion that current value should be recognized in depreciation accounting, on the premise that thereby depreciation provisions are adjusted to "normal" in relation to current replacement costs of the plant, or some other similar standard. No clue is available as to what the second described company would do if, after adjusting its depreciation reserve to a new schedule of cost expiration, or adjusting its unrecovered value of plant to a current value basis, it found that its occupancy and operation costs still remained at a higher level than that of its competitors, with the inference that its plant actually was a liability, not an asset, in a value sense. It is doubtful, in any event, whether any theoretical attempt at cost equality between competitors, even if restricted solely to the charge for productive plant, is sensible, because it is extremely unlikely that any two plants would ever be closely comparable in all the factors which influence current cost to produce. There is a question, in other words, as to why one small item of cost entering into selling price should be so uniquely adjusted to a hypothetical current level, when so many cost elements are, in the nature of a competitive economy, and as a result of varying efficiency, not comparable.

There are many cases in which equal or greater disparity can occur than that produced by value fluctuations following acquisition. Take a third case of a company which after the war buys a $2,000,000 government-erected plant for a price of $250,000. Should it likewise adjust its productive charge in selling price to a "normal" based on an assumed cost of constructing such a plant? A more logical course would be for such a company (or the company with the fully amortized plant) to decide whether it wanted to use its favorable position to make a greater margin of profit than its competitors or to adopt a close pricing policy with which others could not successfully compete.

Here again the issue arises as to the impermanence of any adjustment of this type. A company with its plant well written down at a given date may conclude that it has a substantially greater life, only to find by subsequent events, such as changes in its art or the transfer of markets to other products, that its original approximation of useful life was more correct than the subsequent one. A company with plant assets which appear to be underdepreciated, because the useful life does not seem to be as long as that originally expected, may find (as did many companies during the war period) that actually the usefulness of the equipment persists for a substantially greater period than at one time seemed likely. Even when equipment is fully depreciated and still remains in operation, the correctness of an extension of normal depreciation charges is doubtful for the reasons that (1) it may be offset by other facilities owned by the enterprise which may turn out to have a shorter life than expected and (2) the continued use of fully depreciated equipment may produce higher maintenance costs which would be justified only in the absence of further depreciation charges. Frequently a company making a style product or a novelty item, or one closely protected by patents, deliberately depreciates its plant rapidly in recognition of the uncertainty of life of the profitable market; in such cases, it seems illogical to reconstruct the depreciation charges to a later view of the situation. In these and other cases, any retroactive recomputation of the reserve may prove to be purely temporary. In many instances, adequate revision of the depreciation policy can be accomplished merely by an acceleration or deceleration of the rate of write-off. It is almost never found that a complete plant is due for retirement or replacement at one time, and continued additions or replacements are usually made from year to year; where this occurs, actual experience with retired units may make possible an occasional revision of current rates without retroactive adjustments.

Furthermore, recasting of the figures to a new "unrecovered cost" of plant in the first instance cited herein overlooks the fact that the company has already recovered its full cost in selling prices. It is doubtful whether, from a financial approach, it is proper for this company again to recover such cost by the expedient of canceling a portion of the accumulated depreciation by a credit to surplus and then charging it again as an expense. There is a force in financial accounting which is leaning strongly to the viewpoint that the income statements over a period of years should portray the total results of

operations, no more and no less, and that surplus charges and credits which presume to correct results of past periods should be eliminated. Losses which occur or come to light, and income which is realized, should then be recorded in the accounts in the year of ascertainment. This philosophy views a year's results as a closed matter based upon all known facts at the end of the year, and the balance sheet as a closed statement of unrecovered costs carried forward to the subsequent year. Revaluations of plant or recomputations of accrued depreciation, with resulting adjustments to surplus, defeat the end that accumulated income statements should portray the sum of all profits or losses. The alternative, which would be a charge or credit to income at the time of recomputation of accrued depreciation, has considerable justification in the case of an insufficiency in the reserve, but it is a highly doubtful procedure and susceptible to misuse when current income can result solely from a conclusion that an accumulated reserve is excessive. In practice, this would border on undesirable value accounting with the added danger of permitting questionable income distortions in the years of recognition.

*Summary*

From the foregoing, it is possible to suggest the following broad conclusions as to the financial accounting approach to the recovery of productive plant in selling prices:

1. The basis for productive plant is cost; the few deviations therefrom which are generally recognized as permissible are in instances in which, in effect, a new enterprise is created and a new cost is thereby substituted.
2. Any method of allocating cost to periods of service or to units of production may be employed, provided it distributes such cost over the estimated useful life of the property in a systematic and rational manner.
3. The balance sheet is a statement of unrecovered investment and does not portray value or net worth; the income statement is the more significant indication of the worth of a business and its assets. Accordingly, charges to the income statement should be for a proper proportion of the unrecovered actual cost so that the statement reflects true results in relation to the actual money investment in the enterprise. Consequently, there is little support for the adjustment of balance sheet figures to reflect values at

any date, even when such values vary substantially from the unrecovered cost.

4. The weight of authority seems to permit adjustment of the accrued depreciation reserve when it is found to be materially excessive or deficient because of errors in the rate of write-off; however, there are strong arguments against this practice and it does not occur frequently.

Without specific reference to any of the foregoing points, it seems clear that under the financial accounting approach the amount of recovery of productive plant in price should be the result of a rational allocation of the unrecovered basis that is carried in the balance sheet of the enterprise. The inclusion in price of a portion of a value figure determined from some other source would be paradoxical in assuming that it would be possible to realize one measure of profit in individual transactions but that the collective whole of the transactions included in the income statement could produce another result. For those who believe that some consideration should be given to the value of productive plant when it is for any reason materially different from the carrying figure in the accounts, it is conceded that there can be no objection to the preparation of statistics, as often as desired, showing the estimated cost advantage or disadvantage that exists from the ownership and operation of a plant having an unrecovered basis which is greatly less or more than its fair market value or its economic value or any other value. That hypothetical plant charge or credit, however, should not be used to distort what is actually cost to produce into something which is not cost; at most, for cost accounting purposes, it is a factor which may be taken into consideration as justifying an increase or requiring a decrease in the margin of profit at the time selling prices are fixed. As has been said earlier herein, this would give a company with a low annual cost expiration for its productive plant the opportunity of deciding whether it wished to make a greater percentage of profit by reason of its favorable position or to take a lower margin of profit for long-time advantage by fixing prices at which others could not successfully compete.

# RECOVERY IN PRICE OF PLANT COSTS
## INDUSTRIAL ACCOUNTING APPROACH

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THE TITLE of this paper implies that there is a cost-price relationship for a given company and that management can enforce the complete recovery of costs through its control of price. This is not necessarily true in any given case. Unfortunately, the choice is not always a clear one as between meeting the market or shutting down, for the plant investment is there and there may be no alternative but to use it—so long as out-of-pocket costs are recovered. But in those situations where alternatives do exist, and some will be cited later, the proper decision rests on a correct statement and interpretation of the relevant facts. Unfortunately, with respect to the cost element with which we are here concerned—depreciation—the facts are not always too clear, and their interpretation for management is rendered more difficult by the fact that we are dealing with accounting concepts rather than cash. Furthermore, there frequently is a gap between the historical costs as shown by the books and the prospective costs which, if not bridged, may lead to false conclusions and wrong decisions.

Depreciation accounting has never been too satisfactory. Even if the principles were clear-cut and universally recognized, the factual uncertainties concerning the life of assets, the obsolescence factor, salvage value, etc., would cause it to be subject to a wide margin of error, although it is admitted that these errors may tend to cancel out in the larger companies. But the principles themselves are not clear-cut or universally recognized. The questions of straight-line versus some other method of allocation, of depreciation based on cost versus that based on actual value, and other questions have not been settled to everyone's satisfaction. And, to complicate matters still further, the exigencies of present-day tax accounting have introduced an element of arbitrariness into the situation which is rapidly developing into a conflict between "expediency" in accounting and the consistent application of logical principles. And to the extent that this conflict has a bearing on management's decisions through a distortion of

accounting records, it becomes the responsibility of the industrial accountant to acquaint management fully with the implications so that there can be no misunderstanding of the effect of any decision which is based on book figures.

It is the purpose of this paper to explore some of the implications of our modern tax accounting, particularly with respect to amortization and its effect on pricing and executive control, and to inquire into the responsibilities of accountants to their managements.

*When Is a Cost Recovered?*

It is fundamental that any cost is recovered only through sales and not through profit and loss charges. But the question arises as to how much of the sale represents a cost recovery and how much a profit. The answer is reasonably clear-cut with respect to out-of-pocket costs, but not so in connection with prepayments and fixed assets. As to the latter items, the answer may range from "full recovery with no immediate profit" in the case of the "practical" owner to "partial recovery on a time allocation basis" in the case of the orthodox accountant. Conceivably there are cases where the first answer is the key to the right interpretation of the facts and where straight-line depreciation (or units of production depreciation) would becloud the issue.

The following hypothetical case involving a specific venture rather than a continuing business enterprise is illustrative of this point. John Doe makes the following estimates concerning the production and sale of a novelty product which he has designed:

| | |
|---|---|
| Cost of plant | $100,000 |
| Productive life—10 years, at rate of 10,000 units per year. | |
| Production cost per unit, excluding depreciation | $5 |
| Sales—first year, 10,000 units at $15 per unit; remaining 9 years, 10,000 units annually at $5.50 each. | |

If depreciation is accounted for on a straight-line (or production) basis, the projected results would be as follows:

| | *1st Year* | *2nd Year* | *10th Year* | *Total* |
|---|---|---|---|---|
| Sales | $150,000 | $55,000 | $55,000 | $645,000 |
| Costs, excluding depreciation | $ 50,000 | $50,000 | $50,000 | $500,000 |
| Depreciation | 10,000 | 10,000 | 10,000 | 100,000 |
| Total Cost | $ 60,000 | $60,000 | $60,000 | $600,000 |
| Net Profit or (Loss) | $ 90,000 | ($ 5,000) | ($ 5,000) | $ 45,000 |

Ignoring the tax angle (which today would tend to make the venture impractical) and regardless of the accounting procedure followed by Doe's accountant, he would in all probability take the very realistic view that in the first year he recovered all of his cost and realized no profit, and he presumably would be smart enough to refrain from spending, as profit, any of the first year's book profit.

This case is admittedly unusual but serves to illustrate the point that a management which is in close control of operations may make correct decisions based on a view of the results which does not conform to proper accounting on a year-to-year basis. It is quite obvious that such a view would be impractical where one is dealing with numerous stockholders, public agencies, and so forth.

On the other hand, however, if at the end of the first year a large chain store organization offered to take all of his output for the remaining nine years on a cost-plus basis, he would most certainly claim an allowance for depreciation. The fact that he may consider that the plant cost has already been recovered does not alter the fact that continued production does require the use of the plant and that this plant use has its price.

This brings us to the type of case, so common today, where, because of tax regulations, a plant has been fully written off in five years or less under certificates of necessity and where the assets have a foreseeable further use for ten or fifteen years or more. Has the full cost been recovered? Again we are faced with the fact that the allocation of sales between profit and recovery of "prepayments" is a matter of viewpoint, and today there are three such viewpoints.

First is that of the practical John Doe who, being oblivious to the niceties of accounting doctrine and concerned only with the problem of survival, considers that he recovers all of his costs first and then realizes a profit and thus in effect adheres to "cash basis" accounting. The second viewpoint is that of accrual accounting by which a prepayment is allocated to the years of use. The third viewpoint may be referred to as that of tax-benefit accounting (perhaps better referred to as "tax-benefit and penalty" accounting), according to which the allocation between cost and profit is determined by the exigencies of the tax situation.

*Tax-Benefit vs. Accrual Accounting*

Two manufacturers, "X" and "Y," have identical profits, before depreciation and income taxes, of $500,000. Both have used

$2,000,000 of plant assets acquired under certificates of necessity and have used the 60-month amortization basis for tax purposes. In both cases the plant acquisitions were of such nature as to have probable postwar usefulness. "X" has conformed his accounting records to his tax return, and therefore his operating statement shows a net profit, before income taxes, of $100,000. On the other hand, "Y" takes the view that "true accounting" requires that the cost of the plant be allocated to all of the years of expected usefulness, say twenty, and his operating statement shows a net profit, before income taxes, of $400,000. Can they both be right and, if not, what difference does it make?

Over the years there has been evolving a body of accounting principles through the efforts of accounting practitioners, industrial accountants, academicians, and public and private agencies such as the New York Stock Exchange, the Securities and Exchange Commission, and other governmental bodies. Paralleling this evolution has been that of the Federal income tax principles. These latter at times have conformed to the established accounting doctrines and at other times have been based on expediency.

Many companies began early to conform their records to the tax regulations partly because it was the easiest thing to do and partly because of the belief that a journal entry, formally recorded, would help to win an otherwise doubtful tax argument. And as taxes in very recent years have become such a controlling factor in managements' decisions and thinking, both managements and accountants have been forced to become so tax-minded that the established principles of accrual basis accounting are rapidly giving way to tax benefit accounting.

Unfortunately for the logic of the situation, a full and consistent application of tax-benefit accounting principles is impossible. No accountant would suggest crediting tax-free interest directly to surplus and leaving it out of the profit figure just because that income is tax free. Neither would any accountant suggest charging a net-operating loss carry-over or carry-back to the current year's operations simply because it is a permissible deduction on the return. And what of bad debt recoveries? Should they be credited to surplus in one tax situation and to profit and loss in another? Or what of the cost of insurance on officers' lives, the company being the beneficiary? Should the premiums be left out of profit and loss because they are not deductible for tax purposes?

To permit accrual accounting to give way to tax-benefit accounting is to sacrifice a body of logical principles for another set of rules which, by their very nature, cannot be applied fully and consistently to accounting situations. It would result in the injection in accounting reports of the very element of arbitrariness which over the years accountants have been endeavoring to eliminate. Accounting will become that of government fiat rather than logic. As evidence of the awareness of the accounting profession to this conflict between accrual accounting and tax accounting, we cite the recent research bulletin on "Accounting for Income Taxes" issued by the Committee on Accounting Procedure of the American Institute. This study represents a step in the direction of reconcilement.

Now with reference to the question concerning the proper profit figure in the case of "X" and "Y," we believe the correct answer to be $400,000—under the conditions specified, namely, that at the time of acquisition it was reasonably certain that the assets would be put to peacetime use in the regular operations of the two companies. Granting that the answer can be one of three figures depending upon whether the accounting is on (1) the cash basis, (2) the accrual basis, or (3) the tax-benefit basis, we believe it incorrect to report accounting data generally on the accrual basis and then to make an exception in the case of one item.

And in this connection, a question suggests itself for those accountants who advocate charging the full amortization to profit and loss. Would such a charge, to the extent it exceeds regular depreciation, be justifiable in the event of a loss? This is not to suggest, for one minute, that the charge for regular depreciation is dependent upon the existence of a profit. But we do suggest that any additional charge, in the case of a loss, could not be defended on the ground that the cost was recovered through taxes. Admittedly the illustration may be a little far-fetched, but for the sake of the argument, what of the situation where a company has a profit of $100,000 after a $50,000 charge for depreciation and a loss of $50,000 after an amortization charge of $200,000? The facts are restated as follows:

| | |
|---|---|
| Net profit before depreciation | $150,000 |
| Less: Depreciation | 50,000 |
| Net profit after depreciation | $100,000 |
| Less: Excess of amortization over depreciation | 150,000 |
| Net Loss | $ 50,000 |

Failure to recognize the relation between the loss and the amortization (excess) charge would in effect sanction an arbitrary reduction of the plant assets through surplus and would be indefensible.

To sum up the above comments on the significance of tax accounting, it may be pointed out with Carman Blough that taxable income is a statutory and not an accounting concept.[1] And to quote him further:[2]

> From the view of accounting as an "art" there can and should not be any "code" or rules. Principles must be adapted to social and economic concepts of the times and accountants generally are of the opinion that they should never be "frozen"—especially from the standpoint of regulations.

*Amortization in Relation to Future Pricing and Control*

The preceding section dealt with the relation between amortization accounting and the existence of unrecovered plant costs. Admittedly many companies originally recorded amortization on the books in the belief that the newly acquired assets would have only wartime utility or from conservatism growing out of the uncertainties inherent in the situation. But whether this accounting policy resulted from these factors or simply reflected a tax accounting viewpoint, the fact remains that in many cases the wartime use of the assets was, or will be, only a fraction of the total use. This is especially true in the case of many assets which have been fully amortized in less than 5 years under certificates of non-necessity.

Assuming the validity of the principles stated in the preceding sections, the question now arises as to their significance for purposes of future pricing and executive control. The balance of the paper is devoted to this question. We will not be concerned with the common phenomenon of overdepreciated individual assets when the errors tend to cancel out, nor with individual, small, amortized assets, but rather with complete plants or plant departments, which have been fully written off long before the plants have to be replaced.

Neither will we be concerned with the accounting procedures involved. It is assumed that a proper recognition of projected depreciation can be obtained for purposes of internal management either by book adjustments or simply by statistical procedures. The choice of method is not our present concern, but we are interested in the

[1] Carman G. Blough, "Outline of Lecture on Effect of SEC and Treasury Department Policies on Application of Accounting Principles," *The New York Certified Public Accountant*, Vol. XV, No. 6, June, 1945.
[2] Ibid.

facts of projected depreciation and their significance particularly in those cases involving close price decisions and alternatives. It is recognized that the practical significance of this subject varies with the ratio of depreciation to total cost.

The first case to be considered is that involving the decision to use the wartime plant in breaking into a new market, i.e., production of a product that is new only to the company. Presumably, unless the market is bare of the product and the old-line producers are still partially tied up with war work, the attempt to grab an established producer's share of the market will be based on price competition. By definition the product is not new, hence quality competition is ruled out. Assuming then that the depreciation charge is significant in amount, say from 5 to 10 per cent of total cost, the inclusion or omission of this charge in the cost estimates may do much to influence management's decision. Not that the depreciation charge alone would necessarily be decisive, but it assumes added importance when considered along with other expected advantages resulting from expectations as to superior management, etc. The depreciation figure may be large enough that when added to the other forecasted savings the competitive advantage may look impressive.

It is not suggested here that the decision to go ahead would necessarily be invalidated by reason of the omission of the depreciation charge, but what is suggested is that top management should be fully informed of the nature of the cost advantage and constantly reminded of it. I am not concerned here with the effect, at some future date, of the need to replace the plant at a higher cost (for that problem is always present in periods of rising prices), but management should not forget the origin of the advantage in the event that the venture is successful, beyond expectations, to the point where immediate plant expansion is envisioned.

A second situation arises where the management proposes to take advantage of its lower plant cost (as shown by the books) to go out for more than its normal share of its regular market through price competition with competitors who may not have the advantage of fully amortized plant assets. This involves a decision to lower an established price, and again management should be fully informed as to the nature of and the origin of one of the alleged cost savings.

From an internal management viewpoint, the treatment of amortization may be significant in cases involving questions of alternative methods and of control of competing branch plants. The question,

for example, of whether to produce a part or a subassembly or to buy it, may be determined in part by the presence or absence of a depreciation charge. In those companies which follow the practice of including overhead items in the departmental budgets for foremen and use the budgets as a control device, consideration must be given to the psychological effect on the foreman of the treatment of amortization, particularly where competing departments are dissimilar with respect to the presence of amortized assets.

Or, if a new plant is operating in competition with an older plant of the same company, and on the same product, any top management evaluation of the plant managements must recognize that the management of the new plant may have a hidden cost advantage (freedom from depreciation) in addition to the expected advantage of newer facilities.

All of the above cases, and they are merely indicative of a whole area and applicable to cases involving plants purchased from the Government at a low cost, as well as to amortization cases, imply a peculiar responsibility of the industrial accountant to management. This is the responsibility to interpret the accounting statements and cost estimates in such a manner as to call management's attention to the hidden plant cost. It is not to be expected that a management which is not accounting-trained will, of its own accord, raise the above questions. To do so would necessitate a reading between the lines for which they are not trained. Accounting initiative is obligatory.

*Amortization Accounting and Public Relationships*

As previously stated this paper is not concerned with the choice as between book adjustments and statistical, off-the-record recognitions of projected depreciation. In this closing section, however, mention is made of some implications of the choice. It is suggested that management should review this choice carefully as it pertains to certain of the company's external relations where published statements may be important. Two areas are cited; there may be others. Obviously one such important relationship is that of the company and its stockholders as it relates to dividend policy, but with this we are not concerned as it is a matter for the financial accountant. But we are concerned with those situations where information concerning the company's costs and profits may lead to action by outsiders.

One such situation, and one which to date has received little public discussion, is that involving action by organized labor. This group

is becoming increasingly profit-conscious, and it is quite probable that in the future unusual profits will lead to action for higher wages. Profit and loss statements have already figured in such controversies and mediations and will likely do so much more frequently. It has already been alleged more than once by labor that accounting reports are highly misleading, and depreciation has been one of the scapegoats. I merely wish to suggest here that in some future meeting between management and labor it may be quite embarrassing to management to have to admit that the depreciation shown on their statements is not quite what it seems—that the assets' costs have already been recovered, but that depreciation still runs on!

Another situation involves applications to OPA for relief from ceiling prices. Here, fortunately, there is bureau recognition of the problem as evidenced by the following excerpt from a statement made by Paul M. Green, Deputy Administrator for Accounting of OPA, to the Senate Banking and Currency Committee. The National Coal Association had recommended that the accounting methods section of the Emergency Price Control Act be amended to the effect "that determined costs for purposes of such regulations or orders shall include, but not be limited to, deductions from gross income recognized by the Bureau of Internal Revenue for federal income tax purposes." Mr. Green's reply was as follows:[8]

> This amendment would not require the use of established accounting methods in any sense of the term. For example, as we have shown, the method of computing depletion cost which we now follow and which the National Coal Association now attacks is the one followed by the coal companies themselves. The Association does not even propose that federal income tax accounting be the basis for OPA accounting. They propose that, in computing costs for pricing purposes, industry be permitted to include deductions from gross revenue recognized for federal income tax purposes. But they would not limit industry to such items. The proposed amendment would authorize the industry to take advantage of any specialized accounting methods developed by the Congress to meet the peculiar needs and problems of federal income taxation. However, it would not require the industry to observe any of the countervailing safeguards which the Congress may have provided since the determination of cost is specifically not to be limited to items deductible for tax purposes. Thus industry would be authorized to ignore the tax law whenever it would find an established accounting method more advantageous to it.
>
> The chief effect of such an amendment in many cases would be to inflate costs for price determinations far beyond those recognized by any system of accounting and out of all relationship to facts.

[8] "Cost Currents Section," *N.A.C.A. Bulletin,* June 1, 1945.

So to relate the stabilization legislation to income tax law would embarrass the administration of both. Clearly the stability of the price structure would be threatened if effect had to be given to frequent changes in the statutory concepts and judicial interpretations of income for tax purposes.

The two basic problems should not be confused. Tax laws have many objectives to achieve through the definition of gross and net income which are distinct from the objectives of the accountant in portraying as accurately as possible the actual cost incurred in the production and distribution of goods and services. I am confident that the leaders of the accounting profession would be unanimous in maintaining that cost accounting and its established methods should not be predicated upon income tax legislation.

*Conclusion*

It is suggested that in addition to the familiar "cash basis" and "accrual basis" of accounting there is today a strong tendency to adopt a "tax-benefit basis." Unfortunately, this third method is not, and, in the nature of things, cannot be applied fully and consistently. Consequently, the practice of recording formally the amortizations of those plant assets which will continue to have long usefulness in the postwar period, represent a yielding of established, logical principles to expediency which in the long run may involve more confusion than that attendant upon the alternative separation of accounting records and tax records.

There is an economic cost of plant utilization which should not be ignored, regardless of the accounting procedure. Whether it be a question of price determination or of internal management, an adequate cost analysis would seem to require recognition of imputed or projected depreciation. This is particularly true when dealing with significant amounts of amortized assets. But in those cases where the assets have been written off and no restoration recorded, it requires accounting initiative to acquaint management with the fact that there is such problem. Management hardly can be aware of the implications of an implicit policy or question if they are not aware of the very existence of such policy or question.

Finally, while in this paper we have been primarily concerned with cost facts and not their method of record, we do suggest that managements may well consider or reconsider this latter question with care in view of the many uses to which their published statements may be put by outside groups or agencies, particularly in those cases where adverse action may be taken on the basis of misleading information.

# COST DATA FOR DAY-TO-DAY PRICING

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THERE are not many spots in the usual industrial organization where standards are of more value than in connection with day-to-day pricing. Here they cease to have theoretical application and become essential. In fact the day's pricing job could not be done effectively without standards regardless of the kind or type of cost system that may be used. Here is a basic need that only standards can properly meet. Yet many executives never think of the figures used for this purpose as standards.

## *Usual Price Functions*

Cost standards for day-to-day pricing are usually required for:

1. Pricing cost elements entering into work in process.
2. Costing production and shipments.
3. Pricing special products, modified products, and bids.

If a good standard cost system with adequate accounting controls is in use, the product cost sheets and the supporting data will furnish much of the pricing information. But regardless of the cost system it is essential to view this day-to-day pricing job as a rounded activity and see that provision is made for gathering the essential information and, of equal importance, for properly controlling and proving it as far as can be done within feasible limits.

At this point it may be desirable to consider some of the specific needs and the attendant problems.

### PRICING COST ELEMENTS INTO WORK IN PROCESS

By way of illustration, consider the problems of a woolen mill. It is not important that you may not be in the woolen textile business because the illustration will fit equally any formula industry, for example chemicals, drugs, liquors, and, for that matter, with essential modification, any manufacturing business. However, in order to provide illustrations of other lines of business, some procedures incident to the metalworking and woodworking industries are suggested

in a subsequent section of this paper, while pricing problems of the women's shoe industry are discussed in a separate paper titled "Standards for Cost Control."

Before the order is put in work, a formula or batch make-up will be prepared, for instance:

| | |
|---|---|
| 60% | B super wool |
| 20% | 1½" cotton |
| 10% | A shoddy |
| 10% | M waste |
| 100% | |

This formula is given to the manufacturing division with the manufacturing order and the work is started on its way. What pricing problems are created by this simple act! First, reports must be had of the quantities used of each of the four kinds of material, and these quantities will have to be priced at the purchase cost. As stocks of each of these materials may be on hand with varying cost prices, what prices should be used in making the transfer from raw material inventory to work in process? There are three frequently used methods: (1) use a standard purchase cost for each class of material, transferring any differences between these standards and the actual costs to a price variance account when the purchase invoices are entered; (2) keep the cost and quantities of all purchased lots separate and use the oldest materials first; and (3) maintain a perpetual inventory of each of the four classes of material in quantities and at cost value, thereby developing a new cost per pound at the end of each month to price the material used the following month.

This third method is one I use wherever feasible because it provides monthly material standards, keeps inflation and deflation out of the raw stock inventory by maintaining average values, and provides automatic control over, and proof of, the absorption of purchase costs by the monthly standard prices.

When the actual materials have been placed in process and priced at the raw material costs, it is next necessary to price the batches to learn whether the batch or formula costs are in fact absorbing the costs of the component materials.

The cost department should have standard formulas like the one illustrated previously for each product, priced at standard purchase costs as determined upon for each of the component materials. All batches placed in process during the month should be priced at the

resulting standard batch cost per pound as shown on these formulas, and the sum of this standard batch cost will be the charge to work in process for material placed in work during the month. The difference between this total and the cost of the total component materials placed in process and priced at purchase cost as reported on requisitions or material used reports, as explained earlier, will be the material cost variances. This method provides positive control, by products, over material costs between the component materials as purchased and the work started in process.

By analyzing or breaking down the variance, the effect of the three potential loss-making elements—(1) quantity fluctuations, (2) waste, and (3) price changes—will be determined for management guidance.

The procedures in the metalworking or woodworking industries are similar to those just explained. Raw material used would be priced at cost from the reports of material used. Next, the production orders started would be priced at the standard material costs shown on the standard cost sheets to obtain the monthly charge to work in process for material used at standard cost. The difference between the cost of material used at actual purchase cost and the standard cost of the material called for by the manufacturing orders placed in process will be the material cost variances.

Procedure for compiling the purchase costs for pricing material used would be along the lines indicated previously. Bulk goods, such as steel, lumber, upholstery, etc., would be classified and new average costs determined each month to use in pricing the consumption of the following month. Other and more incidental materials pose a greater problem. Sometimes the use requisitions are routed to the purchasing department to be priced from the purchase cost records. This has the advantage in a smaller organization of eliminating purchase cost data from the cost department and extending the use of the purchase records which are usually kept in some form in the purchasing department. In pricing the usages of these miscellaneous materials, judgment is called for in deciding which prices to use in a fluctuating market, because it is usually not feasible to operate positive controls over the quantities used from exact purchased lots. It is usually desirable for the chief cost man to review this pricing problem at the beginning of each month with the one in charge of usages pricing to determine policies. When prices are stable the problem is not important, but when they gyrate considerable judgment is called for, because simply clearing the raw material accounts

at actual cost, even if that were possible, may not be the answer. The raw material accounts must be so cleared from month to month that at the end of the year the balances in the raw material accounts will reflect the approximate valuation for closing inventory purposes. Obviously, this would not hold in a period of drastic price reductions. This loss would be taken as such at the end of the year. But that does not alter the advisability of keeping an eye on the inventory accounts each month to maintain them as nearly as possible on a realistic basis.

*Labor and Burden*

Labor and burden in work in process should be valued at standard costs. This makes necessary the pricing of the daily departmental production at the appropriate standard labor and burden costs as shown on the product cost sheets. The total labor and burden so absorbed during the month will be the amount of the charge to work in process. No special pricing records are required other than the data shown on the product cost sheets. A subsequent section on costing departmental production also explains this part of the pricing job.

## Costing Production and Shipments

A three-way day-to-day pricing job is usually encountered in this classification:

1. Pricing departmental production for cost and efficiency control purposes.
2. Pricing the finished production to determine the transfer from work in process to finished goods.
3. Pricing shipments to determine the cost of sales.

*Departmental Production*

Departmental production is usually priced at labor and burden cost only as the primary reason for this step is to find out the amount of cost absorbed by the production at standard rates. Obviously, only material added in a department would be included, such as, for example, lacquer which should be absorbed on a unit of production basis. Daily production reports should be examined promptly, classified, and priced. The direct labor price per unit should be the cost shown on the standard cost sheet for performing the particular operation on the specific product. The burden price should be the particular rates

or unit amounts used in developing the burden cost shown on the standard cost sheet for the appropriate products. If material is added in any department, the production should be priced at the unit used in costing the particular material on the standard cost sheet.

Thus it is seen that no special pricing records are needed to price departmental production; simply use the data shown on the standard cost sheets for the appropriate products. Comparing these absorbed departmental production costs with the actual payrolls and the expenditures for expenses will provide the labor and burden cost variances required for (1) cost control purposes and (2) management comparison with the budget.

*Finished Production and Shipments*

Finished production and shipments should be priced at the manufacturing costs shown on the cost sheets for the appropriate products. The problem here is one of providing practical means of classifying and summarizing the products from day to day for ease in pricing and to make sure cost sheets are available for the products. Problems arising in pricing nonstandard or specialty products are discussed in a later section.

In many instances pricing the finished production and the shipments results in considerable duplication of work that is not needed. Therefore, the step of pricing the finished goods production is often eliminated. If this step is eliminated, the cost of shipments will be transferred directly from the work in process to cost of sales, bypassing the finished goods account. In the usual organization the finished goods account serves little value if appropriate finished goods inventory records are maintained. Here again is an indication of the trend to substitute records of physical things for account values for purposes of control. This trend is important and constructive provided it does not become overextended. The job is to determine in each specific instance whether book accounting controls or physical controls are in order.

*Problems Raised by Last-In, First-Out Method*

A number of companies are using the last-in, first-out, or lifo method of valuing inventories, and this will have its effect on the day-to-day pricing problem. Because of the possible ramifications involved in the use of the lifo method, any attempt on our part to set forth an outline of operating procedure within prescribed limits

of space would probably end more in confusion than in elucidation. Experience also indicates that some companies have seemingly gone out of their way to make the problem difficult. Purely from the pricing angle it is simply necessary to use the cost of the most recent purchases first. For practical purposes the average cost of like goods usually is determined by months rather than attempting to use specific lots purchased within the month. Actually, however, this problem is not as simple as it appears to be at first glance. Several things are involved which may affect the tranquillity of the lad charged with the day-to-day job of pricing materials used, production, and shipments.

For illustration, shipments for ten months of the year may substantially exceed purchases, therefore the bulk of the materials will be taken from opening inventory, which is valued below the current market; then in the eleventh month, enough goods are purchased so that at the end of the year the purchases for the year will have exceeded the goods used in shipments, resulting in an addition to the inventories. Also suppose the goods in the opening inventory averaged $1.00 a unit and the late large purchases averaged $1.50. Obviously, if actual purchase costs and inventory values were used in pricing material consumption and resulting shipments, the profits shown for the first ten months will be high, the last two months of the year may show sizable losses, and the year-end result may bear no relationship to the interim operating results.

If the month-to-month operating statements are to make sense and are not to be misleading, definite pricing policies for purposes of day-to-day costing must be determined upon at the beginning of the year. Where feasible, a reasonably definite program can be set up to outline the purchasing program as to quantities and time and the resulting quantities to be taken from opening inventories. All materials used whether purchased or taken from opening inventories should be priced at the current replacement market until the quantities used equal the anticipated purchases for the year. Then consumption would be priced at the appropriate inventory values. If anticipated purchases for the year cannot be reasonably determined, it is usually advisable to assume that the opening inventory will be maintained (always assuming that it is valued below replacement) and current usage priced at replacement cost whether or not appropriate purchases have been made. Under this procedure all materials used will be priced at the cost of the new purchases until the current

year's purchases have been absorbed. All materials used from opening inventories will be priced at the replacement market value and a reserve account credited for the excess over cost that has found its way into cost of sales. At the end of each month the purchasing program and the market price situation should be reviewed so that adjustments can be made each month for year-to-date changes which may be indicated. By carefully following this procedure it should be possible to end the year with a minimum amount of variation between the final operating result of the year and the sum of the monthly profit and loss statements.

### Pricing Special Products, Modified Products, and Bids

It is in this category that the day-to-day pricing job often runs on the rocks and either bogs down under an avalanche of clerical detail or fails to fulfill its function by using figures that are too generalized or superficial. Real judgment and analytical ability on the part of the cost executive is called for in organizing this work in those companies which make a wide diversity of complicated products. Here is the problem of determining prices to use in costing sales and also the job of determining the selling prices.

#### *Special and Modified Products*

Special and modified products are the curse of many companies. The customer can be depended upon to want something different, and the salesman will usually go to bat for him in a big way. So the poor old factory's feeble protest is drowned with the always clinching argument, "We must give the customer what he wants or someone else will." My experience is that the profit curve usually rises proportionately to the decrease in the ratio of special products. It is usually just not possible to get cost plus normal profits on special products because the costs are so high. So the customer pays a nominal price and probably thinks he is robbed, while the seller suffers a reduced profit margin.

Two things are essential if this special products problem is to be kept under control, which are, (1) dependable costs, and (2) a rigid policy of insisting that the salesmen do their best to sell the customers regular products or at least modified regular products when something special is suggested. There is room for much sound work in this field which for years has contributed substantially to the economic wastes of high costs, low profits, and inefficient utilization of

productive capacity. Dependable costs are needed forcefully to keep the problem in the forefront of the management's consciousness and to use in costing and pricing the products as they are shipped. Because of the details involved in obtaining costs on a volume of specialties or modifications, resort is too often had to rule-of-thumb cost estimates and selling prices.

Some illustrations of this unsound practice are: (1) the foundry industry's practice of selling castings at a straight per pound basis regardless of size; (2) the women's shoe industry's habit of selling an entire range of styles at a flat price per pair across the board. Neither of these practices has any justification in sound costs and usually serves to keep the company in the marginal profit or the loss class.

This is not advice to eliminate all special products; I am not that naïve. Instead, my point is to learn how to handle effectively special or modified products. One approach is to try to build the special products of standard component parts so that while the result may have the appearance of a special job, the special work will be more or less relatively incidental. An example is the special upholstery or paint jobs on otherwise standard automobiles.

By organizing the special products problem as far as possible to standardized special goods, standard costs can be determined for them from which selling prices and prices for the day-to-day costing can be set.

*Quantity Orders and Special Bids*

Pricing for large quantity orders and for special bids may easily fall in the category of hazardous occupations if the bids are for relatively large blocks of business, because then the indeterminate element of plant utilization can come into play. Under certain circumstances, it may be thought advisable to take business below calculated or normal cost in order to keep the plant operating at an efficient level. This situation will call for accurate cost knowledge because before an answer can be fairly reached one must know: (1) the cost at normal calculations, (2) the effect this order can be expected to exert on the costs, and (3) the direct or out-of-pocket costs for material, labor, and overhead of the job, below which the price cannot be set without loss of actual cash.

I have said that this situation may arise from time to time and the management may be justified in setting prices accordingly. Extenu-

ating circumstances must always be given proper and thoughtful consideration. Granting all this, my belief is that too much emphasis is not infrequently placed on the necessity of going below calculated cost to obtain bulk business. Here for example may be an order which, because of its size and content, may be made easily and requires no sales promotion. An excellent argument can be made for a cut price based on the apparent cost of that specific job, and that is the logic used with success by some large bulk buyers to get special prices from manufacturers. The fallacy in this argument is obvious. The overhead not borne by this business will have to be carried by other products, thereby increasing the cost and the price to the consumer on the stable products, simply to give the bulk buyer an extra profit or the opportunity of underselling the distributors who handle those regular products. If enough of this business is taken, the one indulging in the pastime will eventually lose control of his business or go broke. I recall vividly a personal experience. This client made men's furnishings, not neckties, but we will assume they were. He sold through dealers serviced by factory representatives. A bulk buyer offered him business at a price below calculated cost but still profitable, if the specific cost of that business alone was considered. This started in a small way early in the year but kept increasing until about one-third of the volume of the year came from that source. To the client's dismay his profits were off badly. He was shocked when analyses of the operations showed the increases that would have to be made in the prices of the regular line to offset the subsidy to the bulk goods in order to obtain normal profits. Needless to say policies were adjusted realistically.

*Economics of Pricing*

I have often thought how interesting it would be if reliable statistics could be developed to show the evil that has been done to our economic system from indulgence in this so-often-indulged-in attempt to sell enough goods at a loss to make a profit. Like every other kind of argument favoring inflation and soft financial practices this one speaks with a siren's voice. Particularly does it appeal to the most vulnerable spot—the desire to avoid work. Operation of a business in highly competitive markets with all the manufacturing and selling problems incident to satisfying a broad list of customers is hard work, both mental and physical. How much easier to turn the capacity of the plant over to the requirements of a single customer.

Now don't get me wrong! This is not an argument for or against the principle of mass buying in retail selling or chain store distribution. If those methods are sound they will continue and prosper regardless of their critics, and if they are not economically sound they will fall of their own weight. It is sufficient for us to recognize that they exist and to examine how, as cost accountants, we should advise our companies to price and cost sales to them. It may be that much of the so-called advantage possessed by large chains over independent outlets has resulted from the price advantages which flowed from being lulled by the siren's voice and not from sound economic operations based on superior customer service. Undoubtedly, the postwar years will produce an increased trend to mass merchandising, and the squeeze will be on the small and medium-sized manufacturers. I have devoted so much space to this problem because I believe it is one of increasing importance. Unsound and unrealistic costing may aid in building up the big combines to the detriment of the small independents by making the small fellow subsidize their big competitors.

In my judgment a fair rule to follow is: (1) never sell goods below normal calculated cost without sound reasons and full knowledge of what you are doing to the cost of other products or to the accumulated profits, and (2) if the practice is indulged in, cost the sales at regular normal costs without giving any effect to the possible cost reductions due to volume; let these savings, if they exist, show up as cost variance credits.

*Normal Costs*

Having placed such emphasis on calculated or normal costs, it may be in order to consider what I mean by this term in connection with a company's pricing policies. There are just two kinds of costs: out-of-pocket costs and prorated costs. Out-of-pocket costs are the current day-to-day expenditures; prorated costs are those expended at infrequent intervals, such as, for example, taxes, which may be paid once a year, or the plant which is paid for once and may be applicable to the operations, for forty years. But essentially the only difference between the cost of the week's payroll and the cost of the plant is the time over which it is to be spread. In determining product costs, four things must be considered: (1) the out-of-pocket costs, (2) the length of time over which the prorated costs shall be spread, (3) the desired profit, and (4) the anticipated or budgeted volume of output.

Point 4 is the elusive one. In general, my opinion is that budgeted volume and the resulting burden rates should be based on one-shift operations at about 80 per cent of capacity. To schedule a lower output will simply subsidize idle capacity, while the inclusion of extra shift operations (excepting in multiple shift industries) may well set up a spiral of demoralizing influences that can, if left uncontrolled, bring chaos to an industry. For an example, consider the cotton textile industry of the decade starting in 1924.

## PRACTICAL PROBLEMS IN PRICING THE NEW LINE AND NEW ORDER

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UNDER a system of free enterprise, where prices are governed by the law of supply and demand, the irresistible force of competition compels the individual business man to fix his prices to meet the market. He can't sell a one-dollar article for two dollars because it costs him $1.80. Although costs do not fix sales prices on established lines, the case is different when a new line or a new order is under consideration, because the business man is not necessarily forced to produce a new product if the estimated cost does not compare favorably with the probable selling price.

The manufacturer must exercise delicate judgment in fixing prices to produce the maximum profit, or, as is often the case, to produce the minimum loss. The whole situation is complex and is constantly changing. It is possible to obtain a reasonably good picture of conditions as they are at the moment or as they were in the recent past. No one can predict the future, but it is imperative that plans be made for the future. The executive who fixes prices is usually confronted with a variety of opinions. If he has been deceived too often by optimistic and even glamorous estimates of future performance made by fanciful engineers and effervescent salesmen, whose ability to forget is exceeded only by their talent for attributing all miscalculations to powers beyond human control, he has likewise been misled by ultraconservative accountants who live in the past and are inclined

to assume that conditions are static. This is no reflection on the abl members of these professions; it is a challenge to them and to th executives who direct them. Some business executives may rel wholly on intuition in fixing prices, but the more they succeed i blending sales forecasts, production data, engineering plans, and his torical figures into cost estimates and budget statements, and th more they understand the principles upon which costs are founded the safer and surer they will progress.

When a new product is considered for production, ideas on th subject usually crystallize into a list of parts supported by blueprints Some parts will be manufactured in the plant because facilities are o will be made available; other parts will be purchased because of lacl of facilities or experience in making them. The purchasing depart ment will obtain bids on purchased parts. The parts to be manufac tured will be laid out to show raw material requirements and opera tions to be performed. Expected production per hour and tooling cost will be shown for each operation, together with the grade o labor required. From all these data, one can calculate direct materia and direct labor costs, making reasonable allowances for spoilage anc reoperation. Then comes the heart of the problem: What overhead will be used? What selling and administrative rate is reasonable

*New Product Should Carry Its Full Share of Burden*

In meeting this problem, the first approach should be to make the new product carry its full share of the burden. It is both too early and too dangerous to think in terms of expense added by the new product. There will be promises that this or that department can take on the extra direct labor and add little or no overhead, the office expense will remain about the same, the sales force can add the new item to their line without any additional cost, and so on. It is ever dangerous to plan on lowering the standard rates on all products to compensate for prospective increased volume. More will be said on this subject later.

It is better to use the standard department rates on operations to be performed in established departments, although modifications upward or downward should be made to provide for different facilities that will be used. Where these differences are consequential, it is better to use machine hour rates that vary with the type of machine, rather than overheads that are percentages of direct labor or fixed amounts per man-hour. If new departments must be created, it will

be extremely difficult to estimate their overhead cost, but at least the general expenses should be included at the same rates used in established departments. Rates developed on other products should be helpful if at all comparable. It would be a serious mistake to use an overhead rate of 100 per cent developed in a light machine shop on some new automatic screw machines where there is one direct labor operator for four machines (the actual rate will be nearer 300 per cent). Experience and good judgment, supplemented with estimates as to the complete staff required to man and service new equipment, machine cost, power consumption, perishable tool replacement rates, and required operating supplies will often produce rates that are remarkably accurate for cost and budget purposes.

*Standard Overhead Rates Should Be Used*

The usual preference is for standard overhead rates; not the averages of some past period of time, not the present rates, and not necessarily the rates estimated for the future. Standard rates are those that good judgment dictates should be attained based on normal business volume which is the volume the contemplated staff and facilities are geared to produce, adjusted for idleness caused by seasonal fluctuations, unbalanced demand, and interruptions caused by material shortages, tool breakage, and so on. In some plants with a variety of machines where production is not continuous, normal volume may be 50 per cent of one-shift machine capacity. In other plants, such as a brass mill casting shop, production is continuous, and normally the furnaces are operated around the clock on a three-shift basis. Here, although the limiting factor may be the capacity of the mills that use billets and bars produced by the casting shop, the normal volume may be as high as 80 per cent of three-shift capacity. Normal volume may be measured in terms of dollar sales, but it first must be calculated in terms of direct labor dollars, direct labor hours, machine hours, or physical volume of output such as pounds or yards.

*Machine Hour Rates Preferred*

The machine hour makes a good unit of measure of volume. Direct labor and sales fluctuate with the value of the dollar; quantities are not reliable as a pound of one thing does not involve anywhere near the same use of facilities and manpower as a pound of something else, even in the brass business, and while direct labor hours

produce approximately the same result, the machine hour provides additional control features when the cost system is based on standard machine hour rates that includes labor and overhead. A machine hour rate should be established for each type of machine, and generally its location within the plant may be disregarded. For example, the cost of operating a drill press in one department should be the same as operating the same drill press in another department. If a cost system is based on departmental overheads applied on the basis of direct labor or direct hours, it is possible to apply widely different overheads on two drill presses of the same type located in different departments. Or again, a department of automatic machines may have a 300 per cent overhead rate, and if a simple bench inspection operation is put in the department, the 300 per cent rate is used on it. If the operation were moved to a central inspection department, the overhead cost used would be the lower rate applicable to inspection work which might be near 100 per cent. Rates developed for each kind of machine or operation give uniformly better results and more accurate costing.

In a machine hour rate cost system it is necessary to measure actual performance against standard, and this means that the number of machine hours operated must be accumulated by types of machines. In order to do this and tie the plan in with the control accounts and budgets, piece rates or labor standards are set in terms of machine hours per thousand pieces or some other unit, with appropriate codes indicating the class of labor and type of machine. In accumulating piecework earnings or standard direct labor costs, as the case may be, the number of machine hours "earned" (usually a higher figure than the actual hours the machines were operated because of the incentive factor in piecework rates) are obtained as a by-product. These earned machine hours, multiplied by the standard machine hour costs that are used for costing individual articles, give the absorbed costs in total and by lines of product.

*Out-of-Pocket Costs*

So much for the matter of standard overhead rates. As stated before, the new product should bear its full share of the burden by figuring the cost at a standard that includes normal overhead. Another way is to figure direct labor and material, and then go on to figure overhead by something like the following process:

| | Monthly Standard | | |
|---|---|---|---|
| | *Direct Labor* | *Overhead* | *Percentage* |
| Normal for old lines | $100,000 | $200,000 | 200 |
| Add for new line | 50,000 | 50,000 | 100 |
| Total | $150,000 | $250,000 | 167 |

From this set of figures one might state that 167 per cent overhead is proper for all lines, or 200 per cent should be used on the old lines and 100 per cent on the new line. Other means could be employed to obtain figures based on the principle here illustrated. There is much to be said for and against such a statement. Let us assume the following:

1. The calculations are correct in every respect.
2. The 200 per cent rate on the old line is a reasonable standard.
3. The new line will employ the same facilities as the old lines. Hence there will be no inherent difference in operations such as might be caused by the employment of lower than average overhead cost.
4. Added direct labor cost of $50,000 will increase total overhead expenditures by only $50,000. The same thing would hold if volume on the old lines were to be increased 50 per cent.
5. The old lines have a standard selling and administrative overhead rate of 10 per cent of factory cost. The new line will increase these expenses $5,000 per month.
6. Direct material cost is estimated at $25,000 per month.

When these figures are put together, the management finds it can sell the new line for 20 per cent above the total cost. The forecast looks like this:

| | | |
|---|---|---|
| Estimated sales per month | | $156,000 |
| Estimated cost per month: | | |
| Material | $25,000 | |
| Direct Labor | 50,000 | |
| Overhead | 50,000 | |
| Selling Expense | 5,000 | 130,000 |
| Profit before taxes | | $26,000 |

If standard overhead and selling and administrative expense rates are used, the outlook is decidedly different, showing:

| | | |
|---|---|---|
| Estimated sales per month | | $156,000 |
| Estimated cost per month: | | |
| Material | $25,000 | |
| Direct Labor | 50,000 | |
| Overhead | 100,000 | |
| Selling and Administrative Expense | 17,500 | 192,500 |
| Loss | | $36,500 |

*Rearranging the Statement*

Which statement is correct? The first is presented on the basis of out-of-pocket or cash costs, i.e., the estimated additional cash expenditures expected to be incurred by the addition of the new line. It will be impossible to check actual performance by accumulating actual cash expenditures incurred by the new line, especially for overhead, because after overhead people get on the payroll they are shifted around and are charged to production cost centers instead of to lines of product. However, overhead expenditures may be divided into fixed and variable categories, but only variable overhead charges absorbed against lines of goods so that if estimates prove accurate a statement could be prepared as follows:

| | *Old Lines* | *New Line* | *Total* |
|---|---|---|---|
| Sales | $450,000 | $156,000 | $606,000 |
| Cost: | | | |
| Direct Material | 75,000 | 25,000 | 100,000 |
| Direct Labor | 100,000 | 50,000 | 150,000 |
| Variable Overhead | 100,000 | 50,000 | 150,000 |
| Variable S&A Expense | 10,000 | 5,000 | 15,000 |
| Total out-of-pocket cost | $285,000 | $130,000 | $415,000 |
| Gross Profit | $165,000 | $ 26,000 | $191,000 |
| Fixed Expense: | | | |
| Overhead | $100,000 | — | $100,000 |
| S&A Expense | 27,500 | — | 27,500 |
| Total fixed Expense | $127,500 | — | $127,500 |
| Profit before taxes | $ 37,500 | $ 26,000 | $ 63,500 |

From this statement, it can be said that the new line made a profit of $26,000 or it could be arranged to show that it absorbed $26,000 of fixed expense and made the old line more profitable by $26,000.

There is some truth in this reasoning, for it has been a common observation that as production goes up, overhead cost per unit goes down. If a plant has an overabsorbed overhead in September of $10,000 and in October the overabsorbed overhead is $20,000, the

chances are that the direct labor in October was higher than in September. This usual explanation of month-to-month fluctuations has produced a widespread belief that the way to get lowest overhead costs is to get more business. Many business decisions are based on this idea. It is an easy way to make profits as the hiring of a few extra engineers and salesmen plus, in some cases, an advertising campaign can get a new line or a new product started that will show a profit on an out-of-pocket basis. If we didn't have such optimism, coupled with a desire for greatness and the human tendency to take the easiest way out, American industry would perhaps not have expanded as rapidly as it did; but the road of progress is marked with a long trail of bankruptcies, reorganizations, and losses.

*Overhead Will Increase With Volume*

The truth of the matter is that in the long run overhead will increase as fast as direct labor. I have no doubt that, in the hypothetical case illustrated in this paper, if the estimates have been correctly prepared, the new line can be added, and overhead expenditures will increase only the $50,000 per month, or at the rate of 100 per cent of direct labor as estimated instead of the normal figure of $100,000 per month, but this will continue for only a few months. After a few years at the latest after the completion of a business cycle of, say, seven to ten years, the additional overhead will have gradually crept up to the normal of 200 per cent. This is also a matter of common observation. I have never heard it said that big corporations have lower overheads than small business organizations; in fact, I have always heard exactly the opposite. The big firms were once small, but they couldn't grow without adding fixed expenses in keeping with their rate of growth. If a concern aspires to double its size by adding new lines or selling more of the old lines and succeeds in accomplishing this end, it will eventually, although not immediately, double its overhead provided its overhead was normal at the start of the cycle.

The explanation of why this happens may be somewhat theoretical, but I doubt that many will disagree with it. The human element figures in it very largely. Some extra work can be piled on a man, be he an accountant, shop foreman, or maintenance man, and for a time he will and can take care of it, but there is an extra strain and after some time, indefinite to be sure, things won't be getting their proper attention. More mistakes, spoilages, and troubles will occur;

wages will be increased to compensate to some extent for the extra volume; additional men will be taken on beyond those originally contemplated. All of these items increase the expenses that were originally called "fixed." When business gets unusually good, nobody likes to turn down orders because of lack of capacity, so new machines and floor space are added, even to produce the line that is profitable only when it is not charged with fixed expense. When business recedes, the extra plant remains and so does the enlarged organization, and, as far as overhead ratios are concerned, things are back where they started, and the advantage enjoyed has been only a temporary one.

If business men would look at out-of-pocket costs as something temporary rather than permanent, their thinking in fixing prices of new lines and new products would be much sounder. If new lines, profitable only on an out-of-pocket basis, could be added when business was subnormal and dropped when business was well on the upswing, there would be much merit in producing them. But it is seldom that conditions afford such an opportunity, for a concern that follows this practice does not, to say the least, qualify as a reliable source of supply, and it stands to lose good will that might be worth far more than the profit on the venture. An established concern cannot add and drop lines at will without experiencing repercussions of one sort or other. Hence the loss line is usually carried right through the top of the business cycle and then, if it hasn't already done so before, it creates its full share of "fixed" expense.

*Real Value of Out-of-Pocket Costs*

Hence the writer believes that the weight of the argument is against fixing prices on the basis of markups on out-of-pocket costs. The latter, however, do have some value aside from being interesting and of help in budget making. It is seldom that a business of any size exists that cannot find a few items sold below standard cost. If the price of an item is below out-of-pocket cost and nothing can be done about it, it should be dropped at once if this action will not result in the loss of other profitable business. The out-of-pocket cost figures show it won't return a new dollar for an old. If the sales price is below standard cost, but above out-of-pocket cost, the item is one to watch. Provided manufacturing processes cannot be revised to lower the cost or marketing methods cannot be altered to lower distribution costs or produce higher sales prices, then the manage-

ment should be alert to the possibility of developing a new or better product that will use the same facilities. Here out-of-pocket costs guide management to the greatest profit from a choice of alternatives.

The writer does not intend to convey the impression that it is a simple matter to divide overhead costs into "fixed" and "variable" groups, or that there is any set of rules that will provide an infallible division. Much depends on policy; within certain limits a given expenditure can be either fixed or variable, depending on how the management chooses to regard it. Direct labor is usually considered to be variable, but it could be considered fixed. However, under conditions prevailing in a plant at a given time, it is possible to make a reasonable classification of expenses into fixed and variable, but with reservations. I wonder how many organizations can compare their 1945 fixed expenses with their 1941 fixed expenses and conclude that the 1941 fixed expenses really were "fixed." Forecasted statements of fixed expenses are made by accountants to measure the effect on profits of month-to-month volume fluctuations and are revised at least annually so there is no intent to say that they are good forever; yet it is often implied that they can be used as the basis of new commitments whose financial success depends on fixed expenses remaining "fixed" over a period of years.

*Effect of Income Taxes*

Before closing, a few observations concerning the effect of income taxes on pricing policies should be noted. Suppose a concern is planning to put a new article on the market and estimates that for an expenditure of $1,200,000 in plant, 10,000 units can be produced per year at a standard cost of $120 each. Considering the risks involved, the venture will not be undertaken unless $120,000 per year can be realized and the plant fully depreciated over five years. It is decided to figure on an income tax rate of 50 per cent. There is also a feeling that when it comes to figuring taxable income the Government will insist on depreciating the investment over fifteen years rather than five years, so the net taxable income will be based on depreciation of $80,000 instead of $240,000, thereby making it necessary to provide $160,000 additional income before taxes. Therefore, to net $120,000 a year after taxes, income before taxes must be $400,000, and this means a minimum sales price of $160 per unit. The forecasted income statement is as follows:

| | | | |
|---|---|---|---|
| Sales | 10,000 units at $160 | | $1,600,000 |
| Cost | 10,000 units at $120 | | 1,200,000 |
| Profit before taxes | | | $ 400,000 |
| Income tax calculation: | | | |
| Profit as above | | $400,000 | |
| Disallowed depreciation | | 160,000 | |
| Total taxable income | | $560,000 @ 50% | 280,000 |
| Net income after taxes | | | $ 120,000 |

In order to realize a net profit of 10 per cent on cost, it is necessary to set the price 33⅓ per cent above the cost. A business about to launch an expansion program cannot overlook the fact that net income is after taxes. The result is that the income tax on manufacturing corporations tends to be reflected in sales prices, and in the long run it becomes a hidden tax on consumption.

*Conclusion*

Of course business would be much pleasanter than it is if all selling prices could be set at comfortable markups over standard cost. It is not expected that the millenium will ever come in this regard, so we must meet the problem on a more realistic basis. Competition sets the prices, and cost figures indicate whether a manufacturer should go into the business, stay out of the business, or, if in, what he ought to do about it. If a new product can be sold for $1.00 and its standard cost is $1.20 while its out-of-pocket cost is $.90, it may be good policy to produce the product subject to these limitations:

1. If nothing more desirable can be found at present, and later it can be dropped without embarrassment, thereby enabling the management to hold its plant and organization in readiness for new opportunities.
2. If the management feels that there is an excellent chance of its men being able to better their estimates by improving processes, designs, and generally making cost reductions that are not presently apparent so that eventually the standard cost will be below the selling price. This may be a real gamble and will be undertaken only by executives who know their organization and can master a difficult situation.

It would be decidedly poor policy to undertake the production and sales of this product solely because the sales price exceeds out-of-pocket cost.

# WHAT COSTS FOR PRICE CONTROL?

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WE ARE to consider the subject of what costs should be used for price control purposes—an intensely interesting subject presently undergoing much serious analysis and discussion, particularly with reference to the reconversion period. As this is being written many proposals of pricing methods are being made. Some will be accepted and some rejected by the Office of Price Administration. The broad over-all objective, however, contemplates the removal of any possible deterrents to reconversion of any industry from war to peacetime production which may result from improper pricing.

The subject deals with costs and price control, two not wholly unrelated subjects. Cost accounting is a subject to which we, as operating industrial accountants or professional people, have devoted considerable time and attention in an effort to formulate the best basic plan for our particular purpose. We know the practical limitations. The subject of price control may be considered less scientific and factual and was designed as a temporary expedient to meet the temporary danger of inflation in an economy not basically conceived for the use of such methods.

## *Different Costs for Different Purposes*

We should bear in mind that there are many types of costs, each suited to particular uses, and each having its limitations. Accountants are familiar with the many different types of costs and the increasing number of constructive uses to which they can be applied effectively. Whether the cost plan is based on standards, on a valuation such as the widely-used normal cost, on a job or process cost method, or on a combination of several methods, to be effective it must represent a workable and fair means of accumulating charges and allocating overhead in the production of an item, a job, or a service. The purposes for which costs are normally used include inventory pricing, control of manufacturing operations, budgeting, determination of selling prices, elimination of unprofitable items, con-

trol of investment, internal audit, and the like. During the war many additional uses have been added.

The advantages of using for a specific purpose one type of cost as compared with another and the benefit of tying in costs and variations in operations and materials with the general accounting records are all purely accounting considerations. More important, the meaning and accurate interpretation of accounting results, under certain known conditions and giving proper recognition to limitations of a system, represent the accountant's part in management. But many times laymen, and certainly on many occasions those in government bureaus, do not appear to be aware that a certain cost is not cost, *per se*. We are told that as a result two additional classifications of costs have been added to the growing list, namely, the category embracing "true" costs and one labeled "false." The presumption, it has been argued, is that a manufacturer or producer may be inclined toward the latter category unless it can be clearly established that he needs relief, or perhaps that he finds himself in hardship or has gone broke.

*The Justification for Price Control*

In undertaking to discuss the acceptability of price control in an economy of free enterprise, certain underlying fundamentals are to be recognized. It is basic that price control is necessary only so long as there is a real and genuine need to prevent run-away prices which would result in chaotic conditions. It should not be control for control's sake. We have been reminded of this principle by responsible officials of the Office of Price Administration, but occasionally the attitudes of some of its subordinates lead us to believe that they feel differently. The need for control, simply enough, exists when an inadequate supply or maladjustment of distribution causes continued and increased shortages of necessary goods because productive facilities or materials are required for war.

In wartime, this control of prices has been exercised effectively, but naturally not without mistakes. At present, attention is being shifted from the two-war price control to reconversion price control. It is at this stage that the problem of price control can be simplified. Inflation takes root when demand constantly exceeds supply. Production is the answer to limited supply. Incentive to produce comes from the attractiveness of profit in an undertaking. And profit is a reward for man's labors and genius and is the basis for a stock-

holder's dividends, or a worker's bonus. It is a constructive element. Reconversion poses a problem of degree, depending upon the industry, the product, the time required to reconvert, the future prospects, and the applicable cost. If, in reconversion to civilian production, an item is so priced as to appear unprofitable, it will be neglected by producers even though the consumer demand is great. Accordingly, supply will suffer, and the danger of inflation will remain. Such conditions could be brought about by continued reliance on any of several of the underlying pricing policies of the Office of Price Administration.

*Price Control and Profit Control*

Price control can and must be divorced from profit control, either for individuals, small or large companies, or industries. So long as the proper cost-price relationship is retained by commodities or products, inflation is not the real danger. But some in the Office of Price Administration argue that price control and profit control go hand-in-hand—that profits on individual products must be squeezed by their "policy of cost absorption" by not recognizing increases in costs. They point out that in many cases in the past manufacturers have absorbed increased costs without apparent hardship. There appears to be some difficulty in understanding that some day the well may run dry; that actually there is a limit to the extent to which industry can go in absorbing increased charges; that only through proper incentives will economies be effected by an alert management and free supervisory force by means of improved processing which lowers costs as an offset to an increase in charges; that volume has a vital and gratifying effect on unit prices, but in reverse it is sometimes deadly; and that above all, incentive varies to a large extent with profits, and that fair or even large profits honestly earned are not immoral—they made this country the greatest productive country in the world, even the greatest in all respects.

*Profit Margins*

Still another principle followed in the present price control policy is that of tying prices to 1941 costs, plus lawful increases in materials and basic wage rates, with profit margins related to the so-called base period years of 1936-1939 on an industry basis. To neglect increased costs other than those for materials and labor is a serious omission. The selection of the years 1936-1939 as normal assumes

that conditions were typical. That this was so is far from the facts in the case. Several considerations other than the political maneuvering in the base period years are referred to here, which indicates that profit margins must be increased. Risks for investment commitments have increased. The costs of doing business have been multiplied. Taxes reduce profits materially. The dangers and uncertainties attendant on postwar conditions are apparent to many and have become the concern also of many bureaus in Washington. Surplus property disposals of plants, equipment, and other items are considered a threat. In the past the degree of risk has governed the amount of capital available for investment in enterprises. Such investments in turn made jobs, meant greater consumption, and an increase in the standard of living with a greater degree of security. Thus, if profits are sufficient, if production and employment are high, and if consumption is well maintained, and if business genius functioned without undue interference, the beneficial effects would be readily apparent. Greater ease in working out problems, including disposals of surplus property, would result because of a larger degree of corporate and individual financial security.

*Relative Prices*

The relative prices of various products have an important influence on the economy and serve as a basis for action by industries and individuals. Problems are created where exceptions for adjustments are made. This is particularly true in the case where a single-product company and a multi-product company both produce the same product. When the price of the single-product company is adjusted upwards, and the multi-product company adjustment is rejected on the grounds of no over-all hardship, price relationships are thrown out of kilter and consumer discrimination results.

We are all aware of the benefits of price control during the past period of stress. We appreciate that there have been some complaints against the Office of Price Administration which were not entirely justified. But this should not prevent us from considering ways and means of improving price control so that orderly and speedy reconversion may be attained with a minimum of disturbance.

*What Is Needed*

The Committee for Economic Development is accepted in many quarters as a group of forward-looking and able men. It is headed

by Paul G. Hoffman, President of the Studebaker Corporation. In the Research Committee bulletin, "Postwar Employment and Removal of Wartime Control," a section is devoted to price controls. It indorses the policy that, "general price advances should be restricted, but prompt adjustment should be permitted prices which deter production because they do not bear a reasonable relation to cost at normal levels of production." It calls also for prompt removal of controls as soon as conditions permit. It is along these lines that an understanding must be reached so that all concerned know that "prompt adjustment should be permitted prices which deter production because they do not bear a reasonable relation to cost at normal levels of production." This understanding can be reached by defining standards which will put into practice a plan of price adjustment based upon anticipated postwar volume which will allow for realistic present-day costs, encourage maximum production to offset current deficiencies in supply by recognizing that the incentive to produce varies with adequate earnings and profits, recognize that capital seeking employment and providing jobs must be adequately rewarded for risk involved, and create these conditions through relaxation or elimination of controls wherever, and as quickly as, possible.

These conditions cannot be dealt with adequately by adhering to March 1942 prices, irrespective of the current costs or conditions, or by using 1941 costs plus lawful increases in materials and basic wage rates, with 1936-1939 profit margins for an industry. Cost in industry today must take into consideration new machinery and methods, substitution of materials, changes in labor rates and classifications, provision for deferred maintenance due to excessive occupancy, cost of reconversion with due allowance for deficiencies in volume until adequate production rates are attained, and all other charges which appropriately can be considered a part of cost of manufacture, distribution, and administration. Management must be given its opportunity to budget the anticipated postwar volume in the markets in which it is preparing to sell. Estimates prepared in this manner would serve as the most intelligent bases for establishing price and would create an incentive to meet a predetermined goal. In fact, industry must be encouraged to produce at a profit, so as to provide jobs for the future and encourage sufficient production to establish a suitable basis to warrant the termination of controls. The relationship of prices established under control of an authority during

reconversion should be so set as not to cause abrupt and wide price fluctuations in the postwar period. This has a direct bearing on the financial position of organizations with inventories and on consumer spending.

*Summary*

The term "cost" has many meanings and implications. Many variations are necessary in adapting costs to specific purposes. In trained hands, costs serve as a tool for management's use in pricing. The system must be understood to be of practical value to those who use it. As related to price control, the use of cost must be selective and apply individually to the particular circumstances. It cannot be applied generally across-the-board without damaging effects to some in industry. Cost and pricing policies in reconversion differ materially from those which existed at the time of conversion to war production and permit no comparison. To be feasible, a plan must be simple and sound from the point of view of administration and not be a deterrent to production. In the period of reconversion pricing, this is the dominant consideration in considering adjustments and in decisions with respect to the retention or elimination of price control. Indeed, it may be the potent factor contributing to its elimination.

# SECTION III

# THE CONTROL JOB

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Cost Control—The Human Factor

Standards for Cost Control

Postwar Reports for Executives

New Problems in Control of Distribution Costs

No one questions that the control and reduction of costs will be one of the most difficult problems of the early postwar period and that industrial accountants will have the major responsibility in this field. *N. A. C. A. Bulletins* for the last year or so have dealt extensively with this problem. In this Section of the Year Book attention is directed to four aspects of cost control which need particular emphasis at this time—the human side, the use of standards, control reports, and distribution cost control.

Because costs are controlled by individuals and understanding, attitudes, and incentives play so important a part in individual action, it is essential that the human aspects of cost control not be overlooked. In the first article in this Section, M. M. Olander, Director of Industrial Relations, and Dr. C. C. Gibbons, Director of Personnel Research, Owens-Illinois Glass Co., discuss the various ways in which progressive personnel policies contribute to the control and reduction of costs. This is followed by a second paper of Clinton W. Bennett, Partner of Cooley & Marvin, Boston, on the use of standards for cost control, which supplements his earlier paper on the use of standards in pricing.

During his year as President of N. A. C. A., Martin A. Moore addressed a number of chapters on postwar reports. Now, those who were not so fortunate as to hear President Moore present in person this highly constructive contribution to effective cost control will have the opportunity of reading it as the third paper of this Section of the Year Book.

In the competitive postwar world the control of the cost of distribution will emerge as a problem of greatly increased importance. In the final paper of this Section, Robert N. Wallis, Assistant Treasurer, Dennison Manufacturing Co., outlines the various problems involved and describes techniques for dealing with them.

# COST CONTROL—THE HUMAN FACTOR

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PERSONNEL administration is really one phase of management. Personnel work, like every other phase of management, has as its goal the more efficient operation of the business. No division can exist very long in a competitive business unless it makes its contribution to the increased efficiency of the entire company. Our purpose in this paper is to demonstrate that the various personnel functions more than pay for themselves in terms of a more efficient and loyal group of employees. We wish to present the point of view that personnel work is not an added cost to be borne by the "productive" parts of the business, but that personnel work makes its own contribution to increased efficiency and profits.

The control of costs in a manufacturing operation requires that all unnecessary waste and inefficiency be eliminated. One of the greatest sources of waste and inefficiency in a business is the improper utilization of manpower. The goal which we have set for the personnel program in our company is the maintenance of a cooperative and enthusiastic working force. Our program is designed to get and keep good employees and to provide certain benefits and services designed to improve the working relationship and the security of all employees. We think that most cost accountants will consider it reasonable that such a program will contribute enough to the increased efficiency of employees to justify the cost involved. One of the greatest needs in personnel work is for accurate facts to substantiate this point. In the absence of these facts, we shall attempt to present what seems to be a reasonable case for the importance of the human factor in cost control.

*Sources of Human Costs*

Unnecessary human costs arise in industry from the improper utilization of manpower. Since every hour of manpower is purchased at a certain price, the lack of effectiveness or the partial effectiveness of any employee may be regarded as an unnecessary cost. This unnecessary cost exists whether the employee is inefficient because of lack of knowledge and skill, or because of lack of proper motivation and supervision. The proper utilization of manpower has been stressed recently because of the labor shortage, but it will be just as important after the war for competitive companies. Lost production and increased costs may result from human factors in the following ways: Labor turnover, lack of proper training, absenteeism for sickness and other reasons, accidents, labor unrest, and lack of proper spirit on the part of employees.

Few people work at anything like their full capacity. Some psychologists have estimated that the average individual operates at about 50 per cent of his capacity. This means that whether employees operate efficiently or inefficiently depends more upon the degree of their motivation than it does upon their abilities.

*Cost Reduction Through Personnel Procedures*

For each source of human cost in industry there is a corresponding personnel program designed to reduce this cost. This cost reduction is effected through a more complete utilization of the abilities and resources of employees. The working force, as a result, is more productive, and there is, of course, a direct financial return to the company.

One aim of a sound personnel program is to handle employees in such a way that they will be desirous of working at a higher level of efficiency. This improved attitude on the part of employees results from their proper handling by supervisors and from a firm belief in the minds of employees that the success of the company will result in benefit to them as individuals.

Personnel policies and procedures are developed to provide for the procurement and maintenance of an enthusiastic working force made up of capable, contented employees. The first problem is the selection of the most capable employee available to fill each vacancy in the working force. After the individual has become a part of the company he must be carefully placed and thoroughly trained so that

he can perform his work efficiently. Some provision must then be made for his safety, health, and comfort while in the plant. In addition, there are a number of personnel benefits and services that companies have found desirable to provide for their people. These benefits include insurance and hospitalization plans, vacations, retirement benefits, and recreation. Companies that have these benefits for employees are in a better position to get the best people available on the labor market at any given time. Furthermore, such a company will retain a larger number of capable people in its employ. Each of these phases of the personnel program will be discussed under a separate heading.

*Selection of Employees*

The employment of a man or woman by an industrial firm should be regarded as a matter of major importance. Assuming that the man will remain an employee of the company for five years, he will probably receive more than $10,000 in salary. Most companies regard the purchase of a $10,000 item of equipment as being worthy of considerable attention. Should the employment of a man not be of equal importance?

The first step in a sound employment procedure is to know the exact specifications needed in the man hired for the vacancy. Then every effort must be made to get applications from the most promising group of candidates available.

In hiring people it is always wise to give some thought to whether they can be promoted later into better jobs. The mistake is frequently made of hiring people who can fill a particular vacancy satisfactorily, but who do not have the ability to handle any of the jobs further up the line. Most companies have a policy of promotion-from-within, but often find it difficult to administer this policy because people in lower level jobs are not capable of handling jobs of a higher level. I know a plant auditor who says that every time he hires an accountant he considers he may be hiring a future plant auditor. Ideally, each vacancy should be filled by someone capable of doing a job at the next higher level of responsibility.

A careful investigation should be made of the personal background and previous experiences of any individual before he is hired. Companies that ignore this precaution often find they have hired people with a long record of undesirable behavior. Unfortunately, this un-

desirable behavior is usually repeated in the plant of the new employer.

There are certain qualifications which cannot be appraised accurately by any method other than aptitude tests. For example, if a company desires to employ a woman of superior intelligence for stenographic work, the only satisfactory way to select the stenographer is to have her take an accurate test that will measure her intelligence. The experience of companies that have used such tests carefully has shown that such a procedure is profitable.

The final step in the employment process should always be a thorough, planned interview between the applicant and the supervisor requiring additional employees. There is no substitute for such an interview because there is no other way to evaluate the personal factors in the applicant. The employment interviewer must be able to combine all the information about the applicant—previous experiences, test results, etc.—into a final decision regarding the suitability of the applicant for the position.

Many companies have maintained that they do not have the staff, facilities, or time necessary for such a complete employment procedure. It is almost certain that the high rate of labor turnover in industry today is the result of careless methods of hiring people. Many companies with 10,000 employees will have to hire 10,000 people during 1945 to replace those who quit or are terminated for various reasons. There is a great deal of cost involved in replacing these manpower losses, and much of it could be eliminated by more careful employment procedure.

It is noteworthy that when the armed forces were faced with the necessity of mobilizing 12 million men, they set up procedures for the careful examination of all people entering the armed forces. A high percentage was rejected as being unsuitable for military service. The armed forces were spared the expense and time that would have been required to train these people who probably would have made little contribution to the winning of the war. Industry might well profit by this lesson which seems to refute the statement that "we have to take anyone we can get these days." In many situations it is better to hire no one than to hire an unsuitable person who will make no contribution to production but will cost the company considerable money for his employment and training and then will either quit or be discharged.

*Placement of Employees on Proper Jobs*

Cost control through the proper utilization of manpower requires that each employee of the company should be working on the job for which he is best suited. In order to place employees on the proper jobs, it is necessary to know the job requirements and also the abilities and skills of the employees. Significant cost reduction can be effected by keeping the square pegs out of round holes. Careful interviewing and testing procedures are the personnel techniques available for determining the aptitudes and abilities of employees.

Again the experience of the armed forces is significant. Every effort has been made to determine through carefully devised tests what the aptitude and abilities of army inductees are so that they can make the greatest contribution to the prosecution of the war. The industrial personnel man who feels he is too busy today for aptitude testing should recognize that the armed forces found it expedient to classify people by means of tests even though time was also of considerable importance to them.

Even when the most careful testing and interviewing procedures are used, many employees will be placed on jobs for which they are not suited. A systematic follow-up on all placements should be made, and whenever an employee is found to be ill-suited to his job, a transfer should be arranged to a type of work for which he shows more promise. Many successful plants attribute their low turnover rate and their high efficiencies to a policy of readjusting employees to their jobs through transfers. When a misplaced employee is transferred to a job he can perform better, there is clearly an increase in efficiency and a reduction in cost.

*Training Procedures*

There are four types of training activities which make a significant contribution to increased efficiency and cost reduction: (1) induction and orientation of new employees, (2) job instruction, (3) apprenticeship training, and (4) training for supervisors.

The new employee is unfamiliar with the working environment, with company policies and procedures, and with his supervisors and fellow workers. Before this new employee can work efficiently, he must become oriented to his surroundings. Through meetings, tours, films, and booklets, the progressive company attempts to orient and induct new employees in a systematic way. These orientation pro-

grams reduce to a minimum the lost production resulting from new employees who "don't know their way around."

After an employee has been selected to do a particular job, the next step, obviously, is to show him what he is to do and to explain the best method of performing the job. An employee cannot be expected to perform efficiently unless he is familiar with the best methods to use on the job. Systematic training courses must be organized and conducted for new employees, even though they may require considerable time on the part of supervisors and personnel people. A great deal of unjustifiable cost results from having people on the payroll who do not know how to perform their jobs satisfactorily.

One of the greatest contributions that personnel work can make to reduced costs is through training. Many manufacturing companies have 100 per cent labor turnover annually. It seems inconceivable that such organizations should attempt to operate without a complete training program. One of the weakest phases of personnel work today is job instruction.

Apprenticeship training is based on the idea that certain jobs are so complex that they can be learned satisfactorily only through a long period of experience combined with instruction. With increased mechanization of industry, the number of jobs requiring apprenticeship training is decreasing. There are still certain jobs, however, for which management cooperating with labor must provide apprenticeship training. It is to the best interests of the company, as well as the employee, for this apprenticeship training to be a period of profitable education and experience, rather than just a period of time that must pass before the employee may qualify for the full rate of pay. Since unions ordinarily are not prepared to develop an apprenticeship training program, the responsibility falls upon management. In the interests of increased efficiency, management should strive to develop craftsmen who have the highest possible level of skill and job information. Only a thoroughly trained man can be fully productive.

Supervisors are the key men in the administration of policies in the personnel field and in all other fields. Foremen and department heads have responsibilities for supervision of employees for quality and quantity of production and for cost control. Because of these great responsibilities, supervisors must be thoroughly trained. A complete, practical training program for supervisors will pay real dividends in terms of reduced costs, increased efficiencies, and better

relationships with employees. The responsibility for training of supervisors rests with the plant manager. Only the plant manager can effectively train supervisors because they look to him for leadership and for detailed information regarding the way they are to perform their jobs.

*Medical Program*

Sickness among industrial employees may be classed as industrial and nonindustrial. Sickness resulting from industrial causes—occupational diseases, for example—is clearly the responsibility of the company. The treatment of employees suffering from occupational diseases and the elimination of the causes of these diseases is the responsibility of the plant physician or medical director. Industrial sickness may involve considerable expense to the company through the treatment of cases and the payment of compensation claims. If there are major industrial hazards in a plant, there is a costly increase in labor turnover and absenteeism.

Many companies now have insurance and hospitalization plans for employees. Part of the cost is usually borne by the company. From the cost standpoint, as well as for other reasons, it is to the advantage of the company to do everything possible to improve the health of plant people. Some items usually included here are periodic physical examinations, first-aid treatment, and health-education classes. It seems reasonable that healthy employees can work more efficiently than ones with acute or chronic disorders.

First-aid treatment for industrial injuries can easily be justified as an essential part of the operation of a plant. Competent handling of these cases is necessary and often prevents infections and further complications. The expense may be justified, if necessary, because of the reduction in disability payments and lost production.

*Safety Program*

One of the responsibilities of management and supervision is to provide safe working conditions and instructions to employees regarding safe practices. It is not sufficient to hang up signs reading "Safety First." Employees will work safely only if they firmly believe their supervisors really intend for them to follow safe practices, even if unsafe practices might result in slightly higher production at times. A plant cannot have a successful safety program unless someone on the personnel staff devotes considerable time to

the administration of the program and unless department heads and foremen have a genuine interest in the program. It is fairly easy to show that a good safety program more than pays for itself. Reduced accident costs and compensation claims will more than pay for the amount of effort spent on the safety program. In addition to the direct costs of accidents, there are also some hidden costs to be considered, such as lost production on an idle machine and time spent by the supervisor and other employees interested in the accident.

*Employee Ratings*

An efficient operation requires the cooperative efforts of a large number of capable people. The jobs requiring the most ability and effort must be filled by people capable of handling the jobs. Nothing is more destructive of morale in an organization than the feeling that the advancement has no relation to past performance or ability.

In order to run a business on a merit basis, it is necessary to have available records regarding the productivity of employees. Since most jobs do not yield production records that are an accurate reflection of productivity and effort, the opinions of supervisors are the only yardstick available regarding employee performance. Most progressive companies, therefore, have developed a rating procedure whereby the performance of each employee is appraised periodically by his superior and a written record is made of this appraisal. Such employee ratings constitute an inventory of personnel comparable in many ways to an inventory of stock or materials.

Accurate employee ratings can serve two purposes: (1) provide the basis for a helpful interview between the employee and his supervisor, and (2) provide an accurate performance record on each employee as the basis for personnel transactions, such as layoffs, rehiring, and promotion.

There is a desire on the part of many unions to disregard personal merit and to handle all personnel transactions on the basis of strict seniority. Such a procedure leads to layoff of very efficient employees, while less efficient ones are kept on the payroll because of longer service. The only way that management can successfully oppose this trend is to have accurate performance records regarding employees.

Periodic interviews between each employee and his supervisor let the man know how he is getting along and in what ways he needs to improve. In this way the ratings and interviews really serve a

training function. By raising the level of performance of all employees and by clearing up misunderstandings about how the work is to be done, these procedures lead to increased efficiencies.

*Employee Benefits and Services*

Most companies extend to employees certain benefits and services that are designed to improve the working relationship and the security of employees. These benefits include such things as insurance and hospitalization plans, retirement benefits, recreation, food-service facilities, vacations with pay, and credit unions. Sanitary, attractive working conditions, reasonable hours, and adequate rest periods are other factors making for a satisfactory working relationship.

How can the cost of these benefits be justified? A company that has a reasonable number of these benefits will attract and hold a larger number of capable people. The people will be more loyal and enthusiastic and will be more willing to expend their efforts in productive work. It is a well-known fact that certain companies in each community draw the highest type of people as employees because those companies are known as "good places to work." The employees consider a good place to work as one that provides steady work at good rates of pay under competent, friendly supervision. An additional consideration is the number of employee benefits which employees of the company receive.

If employees find the working relationship satisfactory, they will be more likely to remain with the company for a long period of time, giving the company the benefit of their increased experience and skill. Such long-service employees are ordinarily more valuable and productive than new employees. The company that maintains a satisfied group of employees with long service records actually derives financial advantage from this relationship.

We want to emphasize, however, that employee benefits cannot be justified on a cost basis if the benefit part of the program is out of proportion to the other phases of personnel work described in this article. Experience has also shown that the number of employee benefits is not so important as the prompt and fair administration of the benefits that do exist.

*Communication Between Management and Employees*

In order to maintain the proper relationship between management and employees, it is necessary to establish channels of communica-

tion between management and people. Ideas must flow freely from the top of the organization to the bottom and also in the reverse direction. If employees are kept fully informed regarding the plans and purposes of management, and if they are allowed to contribute their ideas regarding the operation of the business, a more efficient operation will result. We must recognize that employees have heads and hearts, as well as hands, which they will gladly contribute to the operation of the business if they are allowed to do so.

There are several procedures whereby employees may present their ideas to management. Many companies have a suggestion system which makes it possible for any employee to make constructive suggestions regarding the operation of any phase of the business. Experience has shown that these ideas result in large financial savings to the company. These suggestions also are constructive because they allow the employee to participate in the development of plans and processes. Practically every company that has a suggestion system can show that the actual savings resulting from employee suggestions are many times greater than the cost of operating the suggestion system.

Grievance procedures are common in industry as a means by which employees can present their grievances to management and receive an answer. Such a systematic procedure for hearing grievances allows conditions to be corrected before they further antagonize employees and before they cause serious labor trouble. Grievance procedures are practical in all organizations whether unionized or non-unionized. Employee committees of various kinds are helpful in providing employee participation in various company activities and programs. These committees, if representative of employee opinion, can give management greater insight into the thinking of the people. Employee-opinion surveys are another method that may be used to provide management with accurate information regarding what the people think about various policies and activities that affect them. If management action on matters affecting the people is based on the true facts about the people's opinions, rather than upon hunches, employee-employer relationships will be strengthened.

If the employees are to participate intelligently in the various programs and activities of the company, they must be kept fully informed regarding the company's plans and purposes. Democratic processes always require an enlightened constituency. There are sev-

eral personnel techniques available to management in getting the necessary information to employees.

Plant newspapers and magazines are common means of getting information to plant people. Booklets and bulletin boards also serve this purpose. More recently, instructional films have been developed for use in industry as a means of explaining some program to employees. Perhaps the most satisfactory method of conveying information to employees, if it is practical, is through meetings of various kinds where management representatives can give employees the necessary facts and can, in turn, get the people's reactions firsthand. Ordinarily, it is not convenient to hold such meetings frequently and, for that reason, management must rely on these other techniques to get information to the people.

The cost of maintaining these various channels of communication between management and people may be justified as a means of maintaining a good relationship which results, in turn, in mutual understanding and cooperation between management and employees. Such a relationship is of fundamental importance in good union relations. Nothing could be more disruptive of good cost control than the production lost through strikes and slowdowns. The cost of all phases of personnel work which help prevent such a complete breakdown of management-labor relations can be justified.

*The Role of the Supervisor in Personnel Work*

The administration of these personnel functions is ordinarily centered in a personnel department. The key man in carrying out the personnel functions, however, is the supervisor. The supervisor is the man who selects and trains the new employee, who handles suggestions and grievances, and who enforces safety regulations and maintains discipline. Because the supervisor is of major importance in the administration of the personnel program, much attention must be given to the selection and training of supervisors.

The wisest expenditure that a company can make for improved employee relationships is the money that is spent for good supervision. In general, any company gets the type of supervision that it pays for. There are few bargains in this field. The supervisor of a department not only handles all personnel matters in his department, but is, in fact, the manager of one unit of the factory. He exercises considerable control over labor and material costs and is an

important factor in determining whether his unit of the factory will make a profit or a loss.

Let us take the hypothetical case of Paul Armstrong, who is head of Department A. The company has invested $200,000 in the building and equipment needed for the operation of Department A. Raw materials used in Mr. Armstrong's department cost $50,000 a year. There is a payroll of an additional $50,000 a year for the people working in the department. No one will question the great influence that a department head can have on the efficiency of the operation in this department. It would seem wise to secure the most capable man available for this job, rather than to get someone willing to work at a given price. But if Mr. Armstrong is to enthuse others, someone must enthuse about him. Conditions affecting his own situation must be satisfactory so that he imbues others with the desire to contribute efficiently to the work of the department.

*Summary*

Unnecessary human costs arise in industry from the improper utilization of manpower. Unnecessary costs arise whenever an employee is working inefficiently, either because of lack of knowledge and skill or because of lack of proper motivation and supervision. Lost production and increased costs may result from human factors in several ways, such as labor turnover, lack of proper training, absenteeism, accidents, labor unrest, and the lack of proper spirit on the part of employees. Personnel policies and procedures are used to reduce human costs in industry through the procurement and maintenance of an enthusiastic working force made up of capable, contented employees.

One aim of a sound personnel program is to handle employees in such a way that they will be willing to work at a higher level of efficiency. This improved attitude on the part of employees results from their proper handling by supervisors and from a firm belief in the minds of employees that the success of the company will result in benefit to them as individuals.

The primary personnel functions deal with the following problems: employment and placement of employees, training, medical and safety work, employee ratings, and certain benefits and services to employees. Everything depends upon the development of a harmonious working relationship between employees and the various levels of supervision and management. Good supervision is funda-

mental to the whole program. The personnel functions and the personnel staff are available to supervisors in maintaining the right relationship with employees.

Most companies extend to employees certain benefits and services that are designed to enhance the welfare and security of employees. A company that has a reasonable number of these benefits will attract and hold a larger number of capable people. Employees will be more loyal and enthusiastic and will be more willing to expend their efforts in productive work.

In order to maintain the proper relationship between management and employees, it is necessary that there be open channels of communication between management and people. If employees are kept fully informed regarding the plans and purposes of management and if they are allowed to contribute their ideas regarding the operation of the business, a more efficient operation will result. We must recognize that employees have heads and hearts, as well as hands.

Techniques available to management for conveying ideas to the people include plant newspapers and magazines, bulletin boards, booklets, films, and meetings. The people, in turn, may be permitted to express their ideas through a suggestion system, grievance procedure, employee committees, and opinion surveys. The cost of maintaining these various channels of communication between management and people may be justified as a means of maintaining a good relationship which is the basis for mutual understanding and cooperation.

An attempt has been made to demonstrate that a sensible, balanced personnel program makes a direct contribution to the efficiency of a company by securing and keeping a more efficient and loyal group of employees. The various personnel procedures make it possible to bring about a more complete utilization of the mental and physical abilities of employees. Since every hour of manpower is purchased at a certain price, the increased utilization of this manpower results in a net saving to the company far greater than the cost of supporting the personnel program.

# STANDARDS FOR COST CONTROL

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NOT MANY years ago the advocates of standard costs were like voices crying in the wilderness. They were looked upon sometimes kindly, more often not, by the orthodox brethren as adherents of some strange and slightly heretical faith. The arguments ran that standard costs, representing neither actual current results nor last year's experiences, were neither fish nor fowl nor good red herring and, therefore, could not be trusted. Although the acceptance of standard costs by business was gaining momentum, it took a combination of the great depression and the war program to bring the general realization to the business community that far from representing an academic theory, standard costs constitute one of the important pillars of the business structure. This conversion now appears to be so complete that there is a very real danger that standard costs may be used for purposes for which they are not intended and as a result lose acceptance for those purposes for which they are designed.

An ever-present problem of management is that of obtaining certain simple units of measurement to indicate operating progress. Since business began, executives have instinctively used some such indices. Examples are percentage of markup, comparative sales figures, and dollars of sales per employee. Without exception, every executive and semi-executive whom I have ever met from the head man down to the departmental foreman used some yardsticks, crude or complex, for judging his work or the work of those under his direction.

Some executives are now asking "why not use the standard costs as standards for cost control," and some cost accountants in their zeal have said "yes." To my mind, there is a real potential danger in this suggestion. Standard costs as such are intended to show the anticipated cost of the product under an assumed set of circumstances and at a given level of output. On the other hand, standards for cost control may be defined roughly as the predetermined units

of performance in terms of physical things upon which the standard costs rest. The standard costs show expected dollars and cents results in terms of products. The standards for cost control should show expected performance in broad units of operating measurement. This does not mean that there is nothing in common between the standard costs and the standards for cost control. A good standard cost plan will rest upon fundamental standards of performance, which also should serve as the basic standards for cost control.

*Classification of Standards*

Fundamentally there are two classifications of standards:

1. Primary standards.
2. Secondary standards.

The primary standards have to do with fundamentals, the secondary standards with application of those primary standards to specific cost uses. Generalizing for the moment, the primary standards may be looked upon as the standards for cost control from which secondary standards for the standard costs may be developed.

*Essential Need of Control Standards*

Perhaps at this point someone may say, "O.K., so what? Why bother with standards for cost control?" So let us consider why standards for cost control. First, let it be emphasized that American business, your company, is about to step out on business seas which in many respects are uncharted. It is all very well to say that your business has been established for generations and has operations under control, but that is probably largely wishful thinking. It is hardly an overstatement to assert that in this postwar world many manufacturing businesses will start from scratch. During the war years the drive has been to fill increasing quantities of war orders and meet expanding production schedules. Fundamental problems of a normal peacetime economy, getting business and keeping the customers happy while making a profit within a competitive price structure, have often been forgotten. With the fundamental problems absent, control of the factors entering into the problems becomes academic, resulting in a considerable abandonment of cost control mechanism. Now we are about to face a completely reversed situation. Instead of having only a production problem to fill the orders that were constantly on hand, we will have first of all a sales

problem to get the orders and then the production problem, not only of getting out the goods on time, but of doing it at a profit within the competitive price structure. Excepting only those who may be possessed of a touch of genius—and that is dangerous to assume and more dangerous to plan on—no management can safely steer into these postwar business seas without a plan and means of knowing how closely it is being adhered to. This calls for standards for cost control.

*Control Standards—An Illustration*

A good case in point is that of a manufacturer of women's shoes confronted with the necessity of budgeting operations for a season's run. The following factors are assumed as a basis for calculations:

| | |
|---|---|
| Number of operating days | 250 |
| Number cases to be produced per day | 150 |
| Burden cost per pair | $.30 |

He then set up standard cost sheets for each style, determined the standard selling prices, and proceeded to do business. The women's shoe industry is used in this illustration advisedly. It is a decentralized mass production industry; it consists of some large and a great number of small companies; prices are set largely by economic trade conditions over which the average manufacturer has little or no control; cost knowledge is essential to steer operations profitably within a fairly rigid price structure; competition normally is very keen; of great importance, high production was maintained quite generally through the sloppy business years of the thirties by constantly gearing style appeal and prices to the existing current conditions; and it is a consumption goods industry. Here then is an industry which under adverse conditions learned how to operate at a high level of production and employment by gearing distribution to the public tastes and the ability of the public to buy. It seems in many respects to have discovered and applied a formula which business generally may, with local modifications, have to adopt in the postwar years, if a job is to be provided for every man who wants one. So it seemed desirable to take a look at some of the basic cost control possibilities in this industry which may have helped to pioneer a postwar pattern.

The standard costs reflected by the cost sheets are based on the assumption that the material and labor costs will not exceed the amounts calculated for them and that the burden will not be over

$.30 a pair of shoes. These standard costs will be used to price the shipments at the end of the month to determine the operating results, and the books of account will show as cost variances the amounts by which these results at standard, by cost elements, may differ from the actual experience.

Here we have the orthodox bookkeeping standards for accounting control and for some phases of day-to-day pricing. What standards for cost control are in order? Obviously, mere bookkeeping standards as bases for operating cost control purposes are "too little and too late," because if the monthly profit and loss results are available not later than the tenth of the following month (which is probably too optimistic), that will be about six weeks from the start of the month's production. Many things can happen in a mass production shoe factory in six weeks. For purposes of cost control, certain daily, weekly, and monthly control standards are needed. Minimum required daily control information would include: (1) the number of cases of shoes cut, (2) the number of cases produced, (3) the number of cases sold, and (4) the average selling price of orders received each day by style classes. Since the program is based on a year's production of 37,500 cases (250 days $\times$ 150 cases per day), it is essential to know not only the daily production but also the trend at the cutting room, which is a first step, and in addition to know that the cumulative production will absorb the month's share of the yearly quota.

Daily orders received must be scrutinized to note the selling prices, and compilations of cumulative average selling prices by styles should be prepared daily by months from the incoming orders. These factors—(1) cases sold and produced and (2) selling prices on incoming orders—provide daily continuous control over the source of income to check with the standard sales anticipated when the budget was set up. One of these, the number of cases produced, also provides a daily and cumulative control over the element of volume as a burden cost factor. As long as production remains not less than 150 cases daily, our friend will know that his burden rate of $.30 is safe as far as the element of output is concerned.

Each week he will obtain a payroll analysis of direct labor, both piece and hourly, indirect labor by departments, and the resulting classified direct labor cost per pair. By comparing these figures with their predecessors a reliable and continuous guide on labor costs will be maintained.

These daily and weekly controls are most elementary and certainly are easy to maintain, yet consider the knowledge they provide. Actually our friend can figure out on the back of an envelope his approximate profits to date and the profit trends at the end of each day subject only to: (1) cost of allowances to customers, (2) material cost fluctuations, and (3) expense fluctuations. All three of these can be watched by keeping an eye on purchase orders, payrolls, and incoming mail. By properly using these control standards unfavorable trends can be noted and either corrected or placed in proper perspective today, and not at the end of a month when the damage may have been done.

You may not be in the shoe business, and these control factors may not seem to apply to your problem. But regardless of your line of business, your management needs, and will increasingly need, basic units or standards for measuring and controlling costs, and your problem is to determine what they are and see that they are provided and used.

*Comparison of Classes of Standards*

Suppose we examine the foregoing control factors to consider which are: (1) cost or bookkeeping standards, (2) cost control standards, (3) standards for day-to-day pricing, and (4) how they supplement each other and spring from a common base.

An anticipated output of 37,500 cases resulted in an overhead of $.30 a pair. This $.30 is an accounting control secondary standard for measuring the absorption of actual expenses by the burden rate. It is also a standard for cost control to keep the management posted with respect to the absorption of burden by the production. On the other hand, the important production unit of 150 cases a day used in preparing the burden budget is a primary cost control standard.

The anticipated results of each department would naturally have been used as foundation material in preparing the burden budget. Each foreman should be furnished with that portion of the budget over which he has direct control, set up to show not only the money amounts but the physical things on which the monetary figure rests. These are primary standards for cost control.

Likewise, the sales expense portion of the budget must be based on anticipated sales of physical units translated into values. The sales executive should have this basic budget which reflects primary standards for cost control. In contrast, the accounting control stand-

ards would be the resulting selling expense burden rates probably expressed in terms of percentages of cost of sales which are satisfactory as guides to cost variances but of little value to the sales operating executive.

The product costs as shown on the standard cost sheets will have been prepared from the budgets which, in turn, rest upon the primary standards. These cost sheets will be used in the day-to-day pricing job of costing shipments. The material, labor, and burden costs shown on these product standard cost sheets will be used in the day-to-day job of pricing production to obtain the respective cost variances. A more detailed discussion of the day-to-day pricing problem is contained in a separate section of this Year Book titled "Cost Data for Day-to-Day Pricing," but it seemed desirable at this point to indicate the interdependence of the pricing job, the standard costs, and the standards for cost control.

*Standard vs. Estimates*

It may be advisable to emphasize the fact that in speaking of standards I do not refer to estimates. Too often executives are inclined to use the two terms synonymously, and judging from some personal experiences, cost accountants can be found who indicate confusion in making proper differentiation between them. Clarity of distinction at this point is essential, and the distinction reduced to the bare essential is simply one of control. Basically, a standard is an estimate placed under control. Regardless of the time and thought that may go into the development and determination of the standards, they are still estimates, the best estimates available, but estimates nevertheless. But developing these good estimates is only one step, and the second step of placing them under control is of equal, and perhaps greater, importance. The importance of accounting and cost control cannot be emphasized too much or too often. It is the mechanism through which staid figures, stodgy debits and credits, and dry sleepy reports come to life and parade across the executive's desk in terms of the day's living experiences in the passing business parade.

*Cost Control Possibilities Not Generally Appreciated*

It is my strong conviction that in the field of accounting and cost control we have barely scratched the surface. We are still tied too

firmly to the apron strings of bookkeeping thinking and double-entry traditions. I incline to the belief that future cost work will become increasingly disassociated from the bookkeeping work. So-called tied-in costs have, I believe, been accepted too literally, and as a result reams of cost figures have been posted into the financial books of account with reduced efficiency in both the cost results and the bookkeeping. This fetish of emphasizing tying in the costs arose, I am inclined to think, from confusing bookkeeping entries with control requirements. The bookkeeping entries may have provided control but in spite of, and not because of, the entries. This bookkeeping entry tie-in of the costs was the culmination of the accountant's natural desire to finally nail the costs down with debits and credits in the financial books. But before these entries are made the entire results have to be determined, so the physical tie-in becomes simply an historical recording.

*More Emphasis on Controls, Less on Bookkeeping*

My belief is that industrial cost accounting needs greater emphasis on controls and less on bookkeeping. The only reason for tying in the costs is to make sure that all actual expenditures and accruals have been provided for—that they have been absorbed in the cost figures. This can be done by the cost accountant simply by obtaining the general ledger trial balance after all financial entries have been made at the end of the month. This does not imply that I am advocating the abandonment of cost bookkeeping procedure. Instead I am suggesting that we review our accepted practices critically and try to place the cost accounting in proper perspective with respect to the other essential phases of business and industry. Particularly is this essential today, standing as we are on the threshold of production, distribution, and competitive problems which may, and are almost sure to be, new and strikingly different. To meet these demands the cost work should be considered in terms of engineering standards to match the engineering standards for production and distribution work. These standards will constitute the costs, and the bookkeeping requirements of the cost department will be reduced to the simple fundamentals necessary in order that cost variances will be kept under constant analytical control. While this approach will in many instances lessen bookkeeping detail, and reduce confusion which frequently arises in the periodic work of getting the cost entries into the financial books, the real advantage should result from

shifting the emphasis from costs as bookkeeping factors to costs as engineering standards for measuring operating results, with the bookkeeping control largely that of reconciling absorbed costs with actual expenditures and accruals.

*Determining and Using Control Standards*

Every individual who has the responsibility for any division of the operations should be provided with standards for cost control. This includes everyone from the president down to and including the departmental foremen. Only in this way can the one charged with responsibility know how he is discharging it. But there are certain fundamental principles to keep in mind always: (1) give a man only those standards for operations over which he has definite control and responsibility, (2) have the smallest possible number of standards, (3) use care in determining what work to provide standards for, and once established make no changes unless absolutely advisable, (4) provide him with the actual results promptly at the close of the period, daily, weekly, or monthly, and (5) never use standards for any purpose unless they can be reconciled with the primary standards upon which the entire standard cost plan rests. Failure to follow this last requirement can result only in trouble. In setting up any standard cost plan, the primary standards must be determined with care, and they must be used as the basis for every standards purpose, that is, standard costs, bookkeeping standards, and cost control standards. By constantly gearing all cost calculations and cost control standards to these basic data, a continuous means is provided for measuring all results with a standardized yardstick. If estimates are used for cost control purposes which do not rest upon this primary standards foundation, the principal reason for the job, that of gauging results against a predetermined program, will be lost, not to mention the misleading information which may have been relied upon as a result of these uncontrolled data.

*Evolution of Cost Accounting*

Cost work has passed through a number of evolutions. It was largely developed by engineers and forward-looking industrial executives as bases for studying operating performances. The writings of the late, great Dr. Frederick W. Taylor, the father of scientific management, provide interesting examples of the progress in those early days. These costs dealt basically with things such as units of

output, hours of labor, pounds of material, utilization of plant capacity, which provided standards of performance that could be compared with current results. Transposition of these standards into terms of money took place as a secondary step. In general, the engineer handled such cost work as was done until about the end of World War I, when the accountants started to take over. This translation was largely because the engineer often got lost in a maze of debits and credits when he attempted to convert the shop results into terms of money and control them against expenditures. Naturally, the accountant was able to set up the accounting controls which the engineer's system lacked, and the cost work gradually passed into accounting hands.

*Realistic Cost Viewpoint Essential*

While broad generalizations are always dangerous and never wholly accurate in every specific instance, this new emphasis on the accounting side of costs was not entirely sound. Too often the tendency was to reduce the cost work to mere bookkeeping and thus lose touch with the realities of physical things as they were in the shop. Probably each of us has seen instances of elaborate budget systems and so-called operation standards which were developed from accounting records and statistics and consequently bore little relationship to the facts of operating life. There is a vast gulf between a bookkeeping standard which may be entirely adequate for cost accounting purposes and a cost control standard which will be of operating help to the executive on the firing line.

The bookkeeping standard may show, and rightly, that the budget for direct labor in Department A should average $375 weekly over the year. As the average pay is $50 a week, this represents 7½ men. This may be a perfectly satisfactory standard for cost purposes and will be of real value in measuring general performance and providing cost controls, but to the man charged with specific responsibility for Department A these figures are entirely academic. Showing him these figures after the fact will interest him but not much else because he cannot reconcile them with his daily problems. His job is to get out the day's production. He needs figures to show him how many men are budgeted to produce a given output. Suppose his crew fluctuates from 4 to 10 men, depending upon the work flow; one can readily appreciate his lack of interest in a bookkeeping figure which, while satisfactory as an average, may not be correct in any

specific week. He needs control figures to tell him that when the output is from 250 to 400 units, 4 men can do the trick but above that figure an additional man will be needed, with still another necessary when output crosses 550 units. These are standards for cost control as distinct from standard costs or accounting standards.

Cost accounting has now reached the point in its process of development where it is being recognized as a two-dimensional job; both the engineer's and the accountant's viewpoints are needed. In consequence, the term "cost engineer" has become a very real and not a synthetic title. To do his job the cost man should have shop and accounting training, the experience, and most of all the breadth of vision to place both the engineering and accounting aspects of costs in their proper perspectives and provide management with standards for measuring and controlling performances in language and terms which the management understands and can use.

# POSTWAR REPORTS FOR EXECUTIVES

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THERE IS one phase of postwar planning which cannot be overlooked by industrial management. This is the role of streamlined executive reports. During the war, in a rigidly planned and controlled economy, the emphasis on executive report making naturally has been concentrated on production activity. The normal executive control reports required for a competitive economy have, to a great extent, been sidetracked.

As we move into the period of reconversion and postwar competitive economy, it is perfectly obvious that if industrial accounting is to measure up to its responsibility, careful attention must be given to developing a well-thought-out plan of executive reports which will help private enterprise play the role necessary in making a competitive economy work.

Broadly speaking, all of us realize that before the war there was plenty of room for improvement in industrial accounting report making. In too many cases executive reports were developed on a hit-or-miss basis. In many instances they were good accounting reports, but not too much thought was given to the use for which the report was designed. The finest accounting system in the world is no better than the constructive action stimulated through the reports such a system produces. We can, therefore, very profitably review the question, "Is our executive report setup tuned in on the demands of the competitive era ahead of us?"

## *Background for Postwar Executive Reports*

At the outset, we ought to understand that a business does not exist for the sake of making reports. No system of reports in themselves ever made a business successful. Sound report making is merely one segment of modern progressive, scientific industrial management, and the report-making philosophy must be designed to har-

monize all aspects of the business to the end that more profitable operations may result.

If modern reports are merely one part of progressive, scientific industrial management, we ought to be sure that we know what we mean by scientific industrial management, otherwise the background for our discussion on report making may be "off the beam." Progressive, scientific industrial management can be recognized by these attributes:

1. In addition to the primary function of profit making, there is a clear-cut recognition of the social responsibility of the business, a recognition of the role of government, and a clear concept of the individual business responsibility in making free enterprise work.
2. Through the medium of market analysis, there is a factual knowledge of customer wants—market potential and competition.
3. It employs sound principles of sales forecasting, scientific planning, and scheduling of production.
4. Clear-cut organization lines of responsibility are set up.
5. Principles of budgetary control are applied to every part of the business.
6. Research and development are a dominant part of the management program.

These are the high lights of the type of industrial management that is so necessary for the tough, high-volume, low-cost era that lies before us. It is only after we have applied these tests to a business that we can answer the question, "Is this business a modern, scientifically run enterprise?" It is only after these questions have been answered that we can develop a solid philosophy of executive report making which can best serve modern enterprise.

*Principles of Progressive Report Making*

As I have stated previously, prior to the war and during the war, in all too many cases accounting reports grew as a result of a particular need at a given time. In many instances, such reports were not fitted to the broad structure of business enterprise and did not reflect a sound, logical philosophy of business control. The volume of reports simply grew and in many cases, although the need for a particular report disappeared, the report marched on.

There are many considerations that must be given to the development of a well-thought-out, soundly conceived set of accounting reports. Here are the basic principles that must be adhered to in the development of our system of executive reports:

1. The various levels of responsibility must be given all the facts necessary for constructive action. This means a greater degree of detail for those charged with actual responsibility for a specific function in the organization, with a lesser degree of detail as we ascend the ladder of responsibility from a functional standpoint.
2. The finest report technique is wasted if the individual receiving the report cannot or will not utilize the data presented. Without sacrificing sound accounting principles, reports must be tuned to the wave length of the individual who must act on the facts presented. The light must be held not so the accountant alone can see, but so that the executive receiving the information can also see. Too often, when reports are criticized, the fault is not with the one receiving the report, but with the accountant who prepares it.
3. In order to serve as a basis for constructive action (and this is the only justification for most of our reports) reports must above all be *accurate,* they must be furnished *promptly,* and they must be *brief, simple,* and *comparable.* There is no longer any place for reports for reports' sake only. No longer can the progressive accountant justify historical reports prepared "just as a matter of interest." Reports must be a basis for constructive action. Therefore, this implies a measurement of current or forecasted performance against previous performance or standards.
4. It is not enough for the accountant to prepare reports; he must be close enough to all phases of the business to know what the figures mean, and he must be able to interpret the reports for management intelligently.

## Reports for Top Management

With these principles of progressive report making in mind, we can consider some of the reports that should be furnished to top management, including the board of directors, president, general

manager, executive staff, etc. If we can see the application of the principles to this group, the task of applying these same principles to the rest of our executives is made simpler.

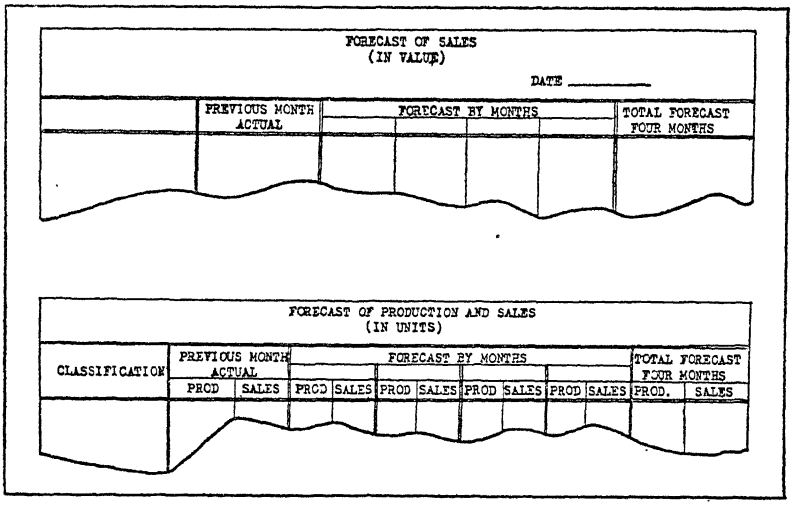
*Forecasts*

At the heart of any scientifically conceived system of report making, we find a well-executed setup of forecast reports. Forecasts of business operations are necessary for any modern enterprise. The job of management is to plan ahead. The accountant must assist management to achieve this end. Too often the impression is created that such reports can be utilized only by so-called large corporations. The *principle* of forecast reports is applicable to any business enterprise. These reports deal with the forward look and give management a sound basis for effectively dealing with all operating problems of the enterprise; they provide a basis upon which the financial policies can be determined and are extremely important for setting up the necessary operating controls for guiding management through any changing tides that beset the business enterprise. A planned system of forecast reports usually covers the following:

1. Sales and production
2. Inventories and commitments
3. Working capital requirements
4. Fixed capital program
5. Forecast of manufacturing expense
6. Complete profit and loss forecast

Here are the requisites for an effective system of forecast reports for top management:

1. The "channel of communication" between customer and producer must be kept open so that market demands and production schedules can be closely harmonized.
2. Standards must be established for all phases of the business operation, that is, standards for costs, inventories, working capital, and fixed capital.
3. Long-range forecasts must be supplemented by monthly forecast data covering current and succeeding three months' period. This is necessary in order to develop such flexibility as may be necessary to meet changing business conditions.



FORECAST OF SALES
(IN VALUE)

DATE _____

| | PREVIOUS MONTH ACTUAL | FORECAST BY MONTHS | | | | TOTAL FORECAST FOUR MONTHS |
|---|---|---|---|---|---|---|
| | | | | | | |

FORECAST OF PRODUCTION AND SALES
(IN UNITS)

| CLASSIFICATION | PREVIOUS MONTH ACTUAL | | FORECAST BY MONTHS | | | | | | | | TOTAL FORECAST FOUR MONTHS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PROD | SALES | PROD | SALES | PROD | SALES | PROD | SALES | PROD | SALES | PROD. | SALES |
| | | | | | | | | | | | | |

EXHIBIT 1

4. Frequent periodic checkup on basic forecast data (forecast vs. actual) must be made. This will cover sales, production, inventory, manufacturing expenses, etc.

*The Sales Forecast*

As indicated above, the "channels of communication" between customer and producer must be kept open in order that clear-cut factual evidence of market demand is registered in the manufacturing program. Normally, through field sales contacts a mechanism is devised whereby such reports of market demands are furnished periodically to the manufacturing unit. The data prepared by field sales representatives is carefully analyzed and reconciled with inventory and production data before sales forecast figures are set. Exhibits 1 and 2 illustrate one method for assembling this data. After proper approvals, the sales forecasts are established as the foundation for the entire forecasting setup.

*The Production Schedule*

With the sales forecast available and a knowledge of current inventory position, the production planning and scheduling unit—the material control unit—lays out the necessary data for current produc-

tion programs and inventory commitments. Such data are summarized and reflect the current and projected production needs as evidenced by the sales forecast. This analysis must be followed through for each specific product that is manufactured.

FORECAST OF INVENTORIES

| | PREV. MONTH ACTUAL | FORECAST BY MONTHS | | | | TOTAL FORECAST FOUR MONTHS |
|---|---|---|---|---|---|---|
| Inventory at Beginning of Period: | | | | | | |
| Charges to Inventory During Period: | | | | | | xxxxx |
| Inbound Freight | | | | | | |
| Productive Labor | | | | | | |
| Credits to Inventory During Period: | | | | | | |
| Cost of Sales | | | | | | |
| Other | | | | | | |
| Total Credits to Inventory | | | | | | xxxxx |
| Inventory at End of Period | | | | | | xxxxx |

EXHIBIT 2

*Inventory Forecast*

During the war, as a result of controlled material plans, all industry has become increasingly conscious of the importance of effective inventory and commitment control. As a most important part of the system of forecast reports, the inventory and commitment record must reflect the very best information that can be developed through the sales and production program. Modern production planning is predicated on the most effective material turnover consistent with the particular needs of an enterprise. Therefore, the forecast on inventory permits management to determine whether or not these standards of inventory turnover are being attained.

*Financial Forecast—Profit and Loss*

Naturally, in competitive enterprise, the profit and loss forecast looms up as the most important report in the entire group of forecast reports. The financial results of the "operating plan" can be reviewed before the fact so that any required adjustments may be made.

The basic data on sales and production schedules having been developed, modern management utilizes the tools of budgets and stand-

ards to determine all elements of costs applicable to a given production schedule. In developing these data, consideration is given to all of the practical obstacles that may exist in maintaining budget performance, because it is important that the forecast data reflect the best estimate of forecasted operating results rather than some ideal or "bogey" performance.

In the initial development of this profit and loss forecast data, anticipated outlays in all cases are compared with budgets. In order that such figures as are used in the forecast carry the approval of the individual executive responsible for each particular phase of operating results, all preliminary forecast data are reviewed with the official in charge. Where the anticipated actual figure is not in line with budgets and adjustments can be made, such action must be taken. When budgets are exceeded, adequate explanations must be given in the form of forecast comments. In all cases, current forecasts of operating results are matched against long-range forecasts so that management may be apprised of any significant drifts in volume or operating results as compared with the long-range forecast.

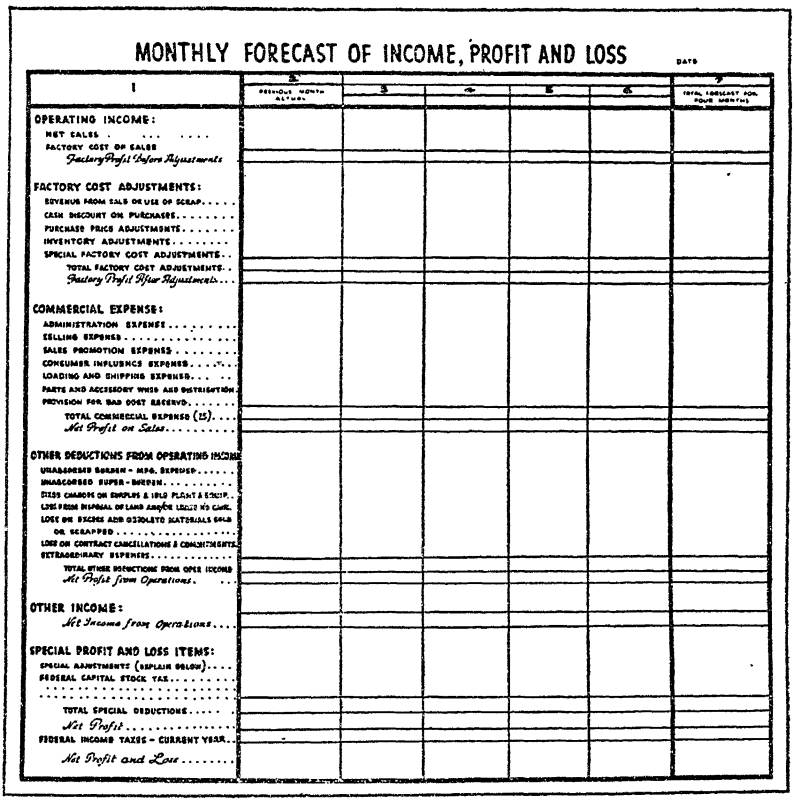
The forecast report (Exhibit 3) is set up on the same basis as the monthly income statement. Cost factors are set forth on a functional basis so that management can clearly determine operating income as distinguished from nonoperating income.

*Forecast of Manufacturing Expense*

As cost accountants, we are familiar with the fact that the most difficult item to control in the face of fluctuating volume is manufacturing burden or manufacturing expense. In most systems of forecasting, a separate statement of anticipated manufacturing expense performance versus budget is set out so that top management may have some idea of the extent to which cost deviations from standard exist. This statement is also a good indication of the extent to which idle facilities exist, since the forecasts of unabsorbed burden are usually set forth in such fashion that volume variances can be distinguished from variable expense variances.

*Forecast of Fixed and Working Capital Requirements*

Naturally, one of the most important items from the standpoint of forecasting is the determination of the cash position. These data are necessary in order to establish sound financial programs. If adequate inventory control exists and an aggressive receivables collection pol-



MONTHLY FORECAST OF INCOME, PROFIT AND LOSS

| 1 | 2 PREVIOUS MONTH ACTUAL | 3 | 4 | 5 | 6 | 7 TOTAL FORECAST FOR FOUR MONTHS |
|---|---|---|---|---|---|---|
| **OPERATING INCOME:** | | | | | | |
| NET SALES | | | | | | |
| FACTORY COST OF SALES | | | | | | |
| *Factory Profit before Adjustments* | | | | | | |
| **FACTORY COST ADJUSTMENTS:** | | | | | | |
| REVENUE FROM SALE OR USE OF SCRAP | | | | | | |
| CASH DISCOUNT ON PURCHASES | | | | | | |
| PURCHASE PRICE ADJUSTMENTS | | | | | | |
| INVENTORY ADJUSTMENTS | | | | | | |
| SPECIAL FACTORY COST ADJUSTMENTS | | | | | | |
| TOTAL FACTORY COST ADJUSTMENTS | | | | | | |
| *Factory Profit After Adjustments* | | | | | | |
| **COMMERCIAL EXPENSE:** | | | | | | |
| ADMINISTRATION EXPENSE | | | | | | |
| SELLING EXPENSE | | | | | | |
| SALES PROMOTION EXPENSE | | | | | | |
| CONSUMER INFLUENCE EXPENSE | | | | | | |
| LOADING AND SHIPPING EXPENSE | | | | | | |
| PARTS AND ACCESSORY WHSE AND DISTRIBUTION | | | | | | |
| PROVISION FOR BAD DEBT RESERVE | | | | | | |
| TOTAL COMMERCIAL EXPENSE (15) | | | | | | |
| *Net Profit on Sales* | | | | | | |
| **OTHER DEDUCTIONS FROM OPERATING INCOME** | | | | | | |
| UNABSORBED BURDEN - MFG. EXPENSE | | | | | | |
| UNABSORBED SUPER-BURDEN | | | | | | |
| DISS CHARGE ON SHRINK & IDLE PLANT & EQUIP. | | | | | | |
| LOSS FROM DISPOSAL OF LAND & BLDG NO LONGER USED TO CARRY | | | | | | |
| LOSS ON EXCESS AND OBSOLETE MATERIALS SOLD OR SCRAPPED | | | | | | |
| LOSS ON CONTRACT CANCELLATIONS & COMMITMENTS | | | | | | |
| EXTRAORDINARY EXPENSES | | | | | | |
| TOTAL OTHER DEDUCTIONS FROM OPER INCOME | | | | | | |
| *Net Profit from Operations* | | | | | | |
| **OTHER INCOME:** | | | | | | |
| *Net Income from Operations* | | | | | | |
| **SPECIAL PROFIT AND LOSS ITEMS:** | | | | | | |
| SPECIAL ADJUSTMENTS (EXPLAIN BELOW) | | | | | | |
| FEDERAL CAPITAL STOCK TAX | | | | | | |
| TOTAL SPECIAL DEDUCTIONS | | | | | | |
| *Net Profit* | | | | | | |
| FEDERAL INCOME TAXES - CURRENT YEAR | | | | | | |
| *Net Profit and Loss* | | | | | | |

EXHIBIT 3

icy is in effect, the two fundamentals of sound working capital forecasting exist. With the forecast data on sales and production, together with the fixed capital program requirements, management can be acquainted with the anticipated cash position during the current forecast period. In addition to furnishing top management with a picture of the working capital position, our setup of forecast reports must also indicate the effects of our fixed capital program. The data covering these forecasts are made a part of the general forecast statement on balance sheet items.

### *Utilizing Forecast Reports*

These illustrations are intended to demonstrate a "system" of forecast reports—a package, if you will—upon which modern man-

agement is dependent for information to guide forward policy making. The forecast reports give management a forward look. They permit top management to harmonize all phases of business operation. Policies of expansion or contraction flow out of these forecast reports. Necessary changes in operating controls and cost administration are set out before the fact. Approval by top management makes effective an authorized program of operations involving all phases of the business. As a result, materials and commitments necessary for carrying out the forecasted program can be authorized. Personnel requirements are set out. Working capital and fixed capital positions are clearly established. The necessary guideposts for effectively operating the business enterprise have been established, and detailed programs can then be set up for all administrative supervisors which will permit them to know the particular part each must play in effectively accomplishing the over-all business objective.

*Forecast Follow-Up*

No system of financial forecasting is effective unless there is current periodic checkup on those factors which most importantly affect all forecast data. These are usually the sales, production, inventory, and manufacturing expense. It is usually practicable to establish a ten-day follow-up on these factors in order to determine how closely the actual results are paralleling the forecasted data. Any important deviations developed in this ten-day checkup can be the basis for immediate executive action, if such action is warranted.

A well-conceived system of forecasting reports represents, therefore, the "ultimate objective of our accounting system." Through such a system, the industrial accountant, as the eyes of management, can play an important part in the policy-making function of competitive enterprise for, in the development and interpretation of forecast reports, we are in a position to point out to top management the results of policies that have been adopted and the probable results of projected policies.

*Appropriations of Capital*

In the postwar era one of the most important problems facing all business, whether large or small, is a proper control of all outlays for plant expansion—replacement of worn-out and obsolete equipment and investment in equipment for cost economies. All business, whether large or small, must have an effective program for con-

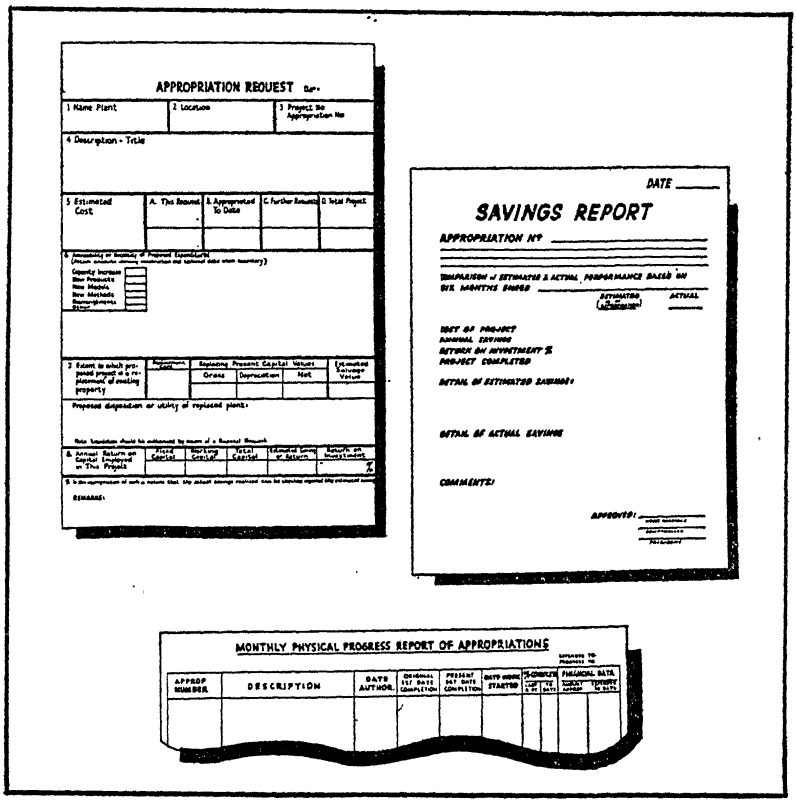



EXHIBIT 4

trolling capital expenditures, for return on investment is importantly affected by this control.

Management must have an intelligent basis for approving requests for funds of this nature. In addition to this, management after approval of such appropriations must be able to follow the physical and financial progress for work authorized, must have the basis for forecasting the timing of the expenditures involved in these programs, and must know the actual results accomplished. Unless these principles are carried into our report-making philosophy, top management must operate on a hit-or-miss basis, on a basis which is clearly out of tune with the competitive enterprise problem of the postwar era. See Exhibit 4.

The reports which we develop for controlling capital expenditures

must be simple, clear, concise, and permit an orderly presentation of all the facts involved in the capital outlay. Usually we follow the same principle in forecasting our fixed capital appropriation program as we follow in our general forecasting setup. We try to develop a long-range program covering a period of twelve months and supplement this by a current program prepared on a quarterly basis. Flowing out of these programs, an appropriation procedure is developed whereby the specific parts of the program can be thoroughly appraised before management authorization is given. The reports (Exhibit 4) that carry out these principles are referred to as:

1. The appropriation request.
2. Physical and financial progress report.
3. The Savings Report. Results attained.

*Research and Development*

Closely paralleling our forecasting procedure and our accounting setup for fixed capital outlay is that for the control of research and development. You recall that I stated in my introduction that one of the attributes of modern, scientific industrial management was the recognition of an adequate research and development program. Normally in the manufacturing enterprise, research and development fall into two categories: (1) products and (2) equipment and tools.

It is essential that a yearly forecast be prepared by the operating executives in each of these sections indicating in a broad general way the projects anticipated for the succeeding twelve months and the amount of money which they request for each project. In the light of the general financial structure and the need for research, top management approves or rejects the programs presented. When approved, these estimates are made a part of the budget data for the year. This does not mean that the complete program reviewed is finally authorized. It means that the general nature of the projects and the amounts requested have been approved. Each specific project as developed within this broad structure must subsequently be authorized. The regular appropriation procedure is utilized for developing such authorization. The appropriation request must clearly outline the nature of the project, the cost, and the potential or anticipated results or need for the development. Throughout the year, reports are prepared showing physical and financial performance against the programs authorized. This is covered by the regular appropriation physical and financial follow-up report.

*Inventory*

The production achievements of American industry during the war developed out of a recognition of the importance of thorough planning and production control. The lessons learned through rationing of materials and balancing of all phases of production problems will not be lost. Inventory control and modern methods of production planning and scheduling are definitely set as an important part of modern, scientific industrial management.

The accountant, in developing his executive report program, must clearly indicate the results and forecasts flowing out of a well-planned material control program. The top executive reports must indicate current performance against inventory standards. In addition, the forecast of inventories must be indicated, and these too must be measured against "bogies" that have been established. The relationship of end-of-month inventories to current withdrawals can be clearly indicated. In addition to the record of actual inventories on hand, it is necessary to indicate commitments that have been placed, and these commitments should be explained in terms of number of months' supply based on current and forecasted usage. Any commitment in excess of the authorized figure must be made only after proper authorization has been secured.

*Profit Analysis*

As accountants, we look to the profit and loss statement as the most important tool for effective managerial control. We ought to be very careful that the form of the profit and loss report is not designed for accountants only but, in addition, permits operating executives and top management to understand clearly the progress of the business enterprise. All of us understand that the usual profit and loss statement is a rather complex accounting record. The influence of volume on unabsorbed burden and the effect on profits of inventory build-up contribute to confused interpretation. It is well to give consideration to the presentation of an analysis which gives management a clearer view of the economic aspects of profit.

We all know that, broadly speaking, our selling price includes recovery of variable costs, fixed manufacturing cost, commercial expense, and variable profit. Therefore, the profit analysis we present should disclose these factors in intelligible fashion:

1. Fixed cost or net handicap of the business is shown. Here we indicate all the so-called fixed charges and in addition those elements of cost which are labeled as fixed in our classification of variable and fixed items.
2. We also indicate the economic or variable profit per unit, per dollar of sales, or per dollar of cost. This can be developed by products if necessary.
3. We show total net variable profit.
4. Net income from operations is indicated. This reconciles with net income from operations on the official profit and loss statement.
5. We show break-even points—that is, volume of unit costs and sales required to break even on each item in the profit analysis.

You can see from this report that management will be enabled to detect important drifts in operating results. Volume influences can be quickly ascertained. Any sizable changes in the handicap must be carefully reviewed since we know the break-even point for the items reported by dividing the handicap by variable profit per unit. Unless increases in handicap are followed by increases in volume, operating results are usually impaired. In addition, the variable profit per unit or per dollar of sales is an important operating factor to watch. This is clearly set forth in Exhibit 5.

In a report of this kind, I believe we have a nice welding of economics and accounting designed to give management a practical operating tool for constructive management control. This report is typical of a postwar approach to executive report making. It is an attempt to convey a rather complex accounting profit and loss statement into an effective medium for current operating control.

*Cost Control—Labor and Burden*

Our top executive group must also be given clear evidence that adequate cost control is in effect. Top management is interested in controlling by exception, that is, they are interested in knowing variances from standards and the reasons for these variances.

An illustration of a type of modern cost control report for top executives is given in our daily report on labor and burden. This report is built on the foundation of scientifically established labor standards for all operations and carefully worked-out budget rates which are predicated on the basis of productive labor. The report is

PROFIT ANALYSIS

| | 1942 | | 1941 | |
|---|---|---|---|---|
| | *Amount* | *Per Cent of Sales* | *Amount* | *Per Cent of Sales* |
| Net Sales | $30,000,000 | 100.0 | $25,000,000 | 100.0 |
| Variable Profit Factors | | | | |
| Material and Freight | 9,000,000 | 30.0 | 7,000,000 | 28.0 |
| Productive Labor | 4,500,000 | 15.0 | 3,500,000 | 14.0 |
| Variable Burden | 9,000,000 | 30.0 | 6,815,000 | 27.3 |
| Variable Commercial Expense | 600,000 | 2.0 | 550,000 | 2.2 |
| Other Variable Items | 90,000 | .3 | 50,000 | .2 |
| Total Variable Costs | $23,190,000 | 77.3 | $17,915,000 | 71.7 |
| Total Variable Profit | $ 6,810,000 | 22.7 | $ 7,085,000 | 28.3 |
| Fixed Costs | | | | |
| Fixed Burden | 3,000,000 | 10.0 | 2,750 000 | 11.0 |
| Fixed Commercial Expense | 1,200,000 | 4.0 | 1,150,000 | 4.6 |
| Total Handicap | $ 4,200,000 | 14.0 | $ 3,900,000 | 15.6 |
| Net Income Before Taxes | 2,610,000 | 8.7 | 3,185,000 | 12.7 |
| Variable or Economic Profit Per Dollar of Sales | .227 | — | .283 | — |
| Break-Even Annual Sales | $18,500,220 | 61.7 | $13,780,021 | 55.1 |
| Break-Even Monthly Sales | $ 1,541,685 | — | $ 1,148,335 | — |

EXHIBIT 5

prepared on a daily basis, that is, the performance for a given day is available for the top executives at 4:30 the succeeding day. This means that a procedure must be developed whereby actual and standard productive labor figures are developed daily, and in addition to this a method of arriving at daily actual burden figures must be set up. The productive labor savings or loss represents the difference between the allowable productive labor for the production of a given day measured against the actual productive labor. Standard productive labor is used in developing the burden allowances. Where practical difficulties exist in arriving at actual expense figures for any day, such figures may be estimated and corrections made when the actual figures are available.

The report we are reviewing (Exhibit 6), while prepared daily for executives, is also prepared on a ten-day basis for each department.

## BUDGET REPORT

DATE ISSUED _____ DATE

| | DAY ☐ OR WEEK ☐ | | | | | MONTH TO DATE | | |
|---|---|---|---|---|---|---|---|---|
| | TOTAL BURDEN | DEDUCT FIXED | ACTUAL VARIABLE | STANDARD VARIABLE | SAVING | SAVING | VARIABLE RATE ACTUAL | VARIABLE RATE STANDARD |
| INDIRECT LABOR | | | | | | | | |
| OPERATING SUPPLIES | | | | | | | | |
| EXPENSE TOOLS | | | | | | | | |
| UTILITIES PURCHASED | | | | | | | | |
| MAINT. & REARRANGEMENT | | | | | | | | |
| EMPLOYES INS., TAXES, ETC. | | | | | | | | |
| LOSSES, ERRORS, DEFECTS | | | | | | | | |
| FIXED CHARGES | | | | | | | | |
| SUNDRY | | | | | | | | |
| CREDITS | | | | | | | | |
| TOTALS - BURDEN | | | | | | | | |

| | DAY OR WK | MO. TO DATE | YR. TO DATE |
|---|---|---|---|
| ACTUAL PROD. LABOR | | | |
| STD. PROD. LABOR | | | |
| SAVING - LABOR | | | |
| SAVING - BURDEN | | | |
| TOTAL SAVING | | | |

OVERTIME AND NIGHT SHIFT PREMIUMS (MEMO ONLY)

| | DAY OR WEEK | MO. TO DATE | YR. TO DATE |
|---|---|---|---|
| ON PRODUCTIVE LABOR | | | |
| ON EXPENSE LABOR | | | |
| TOTAL | | | |
| TOTAL OVERTIME PREMIUMS ONLY | | | |

SIGNED BY _____

EXHIBIT 6

This means that factory supervisors receive these data three times a month.

It can be seen from this that top management is given the opportunity of detecting adverse trends in these important phases of costs. These trends are detected currently, and management is in a position of applying corrective measures before the conditions become too deeply rooted. This is a typical example of a report developed for *constructive management action.* The summaries that are prepared for top management can be broken down to such detail as departmental supervisors may require.

### REPORTS FOR SUB-EXECUTIVES

So far we have discussed examples of the types of reports usually prepared for top management. We have not endeavored to cover all

the reports prepared for this group, but we have attempted to give sufficient illustrations to show the principles involved.

Many of the reports prepared in summary for top executives are prepared in much greater detail for sub-executives, that is, superintendents, foremen, etc. We are realizing more than ever before that if factory superintendents, foremen, etc., are to be considered as part of managment, they ought to be given the tools of management—adequate reports indicating the important aspects of the business enterprise, together with such control reports as will permit them to carry out their function more successfully. In the past, in many cases, we have seen management's short-sightedness create a rift between factory supervisors and top management with the result that in some companies foremen have not felt that they were a part of the management group and turned to outside groups to represent their interests.

It is sound management philosophy to give factory supervisors a detailed picture of all phases of the business enterprise at least once a year. Many corporations have annual supervisors' meetings at which time they review in considerable detail the operating results and forecasts and set out specific over-all operating problems for the ensuing year. This is sound business strategy and is designed to weld the factory supervisor to the management group. Some of the reports which may be covered at a meeting of this kind are:

1. Annual shipments
2. Rate of increase in shipments
3. Analysis of sales trends by products
4. Production program and plans by size groups, etc.
5. Corporation's position in the industry
6. Gross investment in machinery and equipment
7. Floor space
8. Trend of average number of hourly employees
9. Data on number of male and female employees
10. Hourly employment experience
11. Analysis of profit and loss statement

*Cost Problems*

1. Forecast of selected items of cost
2. Efficiency of productive labor

3. Comparison of total losses, errors, and defects to productive labor
4. Relationship of labor content in scrap and repairs to productive labor
5. Indirect labor—material handling cost analysis
6. Inspection costs

In addition to this broad picture of the over-all business, it is of course necessary to give the foreman currently those reports which will permit him to carry out effectively his administrative responsibility. These reports usually cover:

1. Forecast of machine load for production schedules
2. Performance against production schedule
3. Ten-day cost report on labor and burden (Same as given to top executives, but in greater detail)
4. Budget data in physical units
5. Detailed scrap report for costs, rejects, etc.
6. Cost trends on low profit items
7. Payroll reports showing earnings, efficiencies, and take-home of all workers under foreman's supervision

*Budgets in Physical Units*

To illustrate the type of operating reports a foreman requires, we select one set from the group we have listed above, that is, the report of budget performance in terms of physical units. As accountants, we realize that it is a temptation to present all control reports in accounting terms rather than in the terms recognized by the practical operating executive. All too often, we have set up budgets on the basis of labor rates, and in the budget rate we bury any variable factors which are mysteries to all except those initiated into the complexities of accounting. Often the foreman takes these budget data on faith alone. An effort should be made wherever practicable to translate important budget control items into physical terms, that is, into language the foreman thoroughly understands. All labor budgets, whether direct or indirect labor, should be in terms of manpower. A given production schedule, for example, requires an allotted quota of various types of productive help, and the relationship of nonproductive to productive help indicates the manpower budget for indirect labor. The foreman, therefore, should receive his budget

in these terms, and any budget variances should be explained in terms of manpower. See Exhibit 7.

Similarly with such items as scrap, grinding wheels, and other important elements of supplies. In many cases, analysis will reveal that there is a solid physical basis which determines the units allowable for effective performance. See Exhibit 8.

Notice in the statement showing the budget basis for operating supplies that budget allowances are based in some instances on machine operating hours and in others on floor space or number of employees. In the manpower budget, each functional group of indirect labor is related to a controlled factor. Laborers, for example, are related to the number of machine operators; sweepers are related to floor area; tool repair personnel is based on tool usage.

Accountants are becoming increasingly conscious of the necessity of setting out budgets in terms of physical units, and we can expect to see a distinct trend in this direction over the next few years.

### Reports for Sales Executives and Supervisors

Lest we create the impression that the only area for improved postwar reports lies in the factory data, we will spend just a few minutes in looking at the kind of reports our sales executives and supervisors must receive if we are to help them carry out their tremendous postwar responsibility.

Too often the usual sales reports merely show current year's sales and sales expense measured against last year's figures. This principle is carried out in measuring the data covering sales on the various products sold. Sometimes we find sales figures measured against quotas. This is quite essential since forecast data are usually tied in with such quota figures.

For the hard-hitting, tough, competitive enterprise setup that faces us, these reports are not too satisfactory. We must set up the kind of reports that really measure progress in our sales effort. Here are some of the questions I feel our sales reports must answer:

a. What is our position in the particular industry of which we are a part? How large a share of the market are we getting? Are we increasing our share, or are we losing ground?
b. Are current sales in line with the economic indices of the industries we serve? We can show an increase in sales and still be losing ground.

MANPOWER BUDGET

DEPARTMENT 6—ASSEMBLY
FOR MONTH OF 1944

| | *Budget Basis* | *Standard Force Requirements* | *Financial Allowances To Reconcile With Financial Budget* |
|---|---|---|---|
| Productive Forces | Manufacturing Schedule | 50 | $x.xx Per Allowed Hour |
| Indirect Force Standards | | | |
| Supervision | Fixed Personnel—2 | | Fixed—$xxx Plus |
| | Balance—1 for 25 Operators | 4 | $xxx Per Month Per Variable Employee |
| Clerical—Hourly | 1 for 50 Operators | 1 | $x.xx Per Allowed Hour |
| Laborers | 1 for 25 Operators | 2 | $x.xx Per Allowed Hour |
| Sweepers | Floor Area | 1 | $x.xx Per Allowed Hour |
| Set-Up | Scheduled Set-Ups | 3 | $x.xx Per Allowed Hour |
| Inspection | 1 for 25 Operators | 2 | $x.xx Per Allowed Hour |
| Total—Indirect Labor | | 13 | |
| Tool Repair | Tool Usage (Std. Route Sheet) | 1 | $x.xx Per Allowed Hour |
| Oilers | Machine Operating Hours | 1 | $x.xx Per Allowed Hour |
| Machine Repairs | Machine Operating Hours | 3 | $x.xx Per Allowed Hour |
| Total—Maintenance Labor | | 5 | |
| Product Salvage | Manufacturing Schedule | 1 | $x.xx Per Allowed Hour |
| Total Non-Productive | | 19 | |

EXHIBIT 7

## OPERATING SUPPLIES BUDGET

### DEPARTMENT 1—MACHINING

FOR MONTH OF 1944

| | *Budget Basis* | *Requirements* | *Financial Allowance To Reconcile With Financial Budget* |
|---|---|---|---|
| Lubricating Oil | Machine Operating Hours | 25 Gals. | $ .xx per Gal. |
| Cutting Compound | Machine Operating Hours | 350 Gals. | .xx per Gal. |
| Wiping Towels | Per Employe | 2,500 | .xx each |
| Paper Towels | Per Employe | 100 Rolls | .xx per Roll |
| Gloves | Per Employe | 100 Pair | .xx per Pair |
| Goggles | Per Machine | 10 | x.xx Each |
| Aprons | Per Employe | 15 | x.xx Each |
| Safety Shoes | Per Employe | 5 Pair | x.xx per Pair |
| Brooms | Floor Space | 3 | .xx Each |
| Cleaning Brushes | Floor Space | 15 | .xx Each |
| Cleaning Compound | Floor Space | 100 Lbs. | .xx per Lb. |
| Sawdust | Floor Space | 150 Lbs. | .xx per Lb. |
| Washing Compound | Machine Operating Hours | 100 Gals. | .xx per Gal. |
| Slushing Compound | Machine Operating Hours | 50 Gals. | .xx per Gal. |
| Emery Cloth | Machine Operating Hours | 500 Sheets | .xx Each |

EXHIBIT 8

c. The profitability of the various products sold must be set out so that we know our "loss items."
d. Accurate data on marketing costs by products are needed.
e. Where a problem of sales territories exists, sales and profit data by territory must be shown.
f. Where the product sold consists of a line of sizes and types, we ought to have exact data on sales by sizes and types. Important engineering, manufacturing, and sales problems may be clarified by this information.
g. Data on slow-moving stock must be furnished periodically.
h. Selling and advertising expense must be carefully analyzed, and in general the principle of variable and fixed costs must be worked into these cost classifications. Our reports must clearly measure actual expense against budgets, based on this principle.

Most of us realize that accounting for distribution costs offers a fertile field for our accounting imagination in the postwar era. It will be extremely important for management to have accurate data on this phase of operations if profitable results are to be assured.

## Graphic Charts

One of the principles we established was that reports must be tuned in on management's wave length. Many types of management, in fact, most types, get more information out of a simple, clearly set up graph than out of the most elaborate statistical report we could prepare. Very often, too, the accountant will find his message more easily dramatized for constructive action if the facts he presents are set up graphically.

However, a word of warning—do not attempt to set up graphs unless you, or someone in your organization, is familiar with the principles of chart making.

### *The Ratio Chart*

Perhaps the most common error that is made is to show two widely different series (Dollars or Volume) on the same arithmetic chart and set before the eye an entirely erroneous conclusion. This is illustrated in the ratio and arithmetic chart shown on page 149. You will notice that on the ratio or logarithmic curve, the true picture is given;

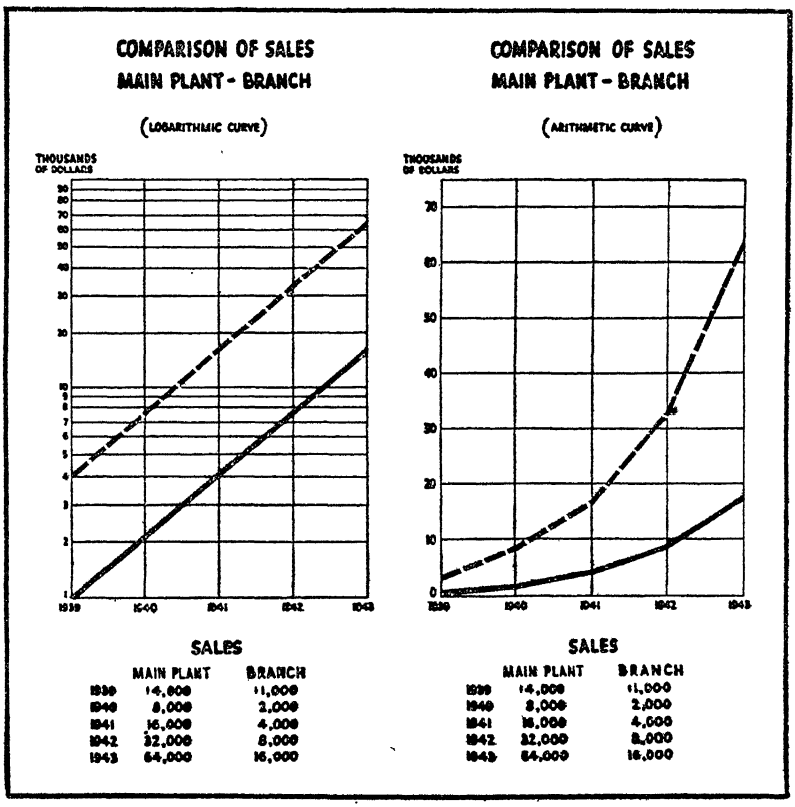



EXHIBIT 9

the sales branch has maintained its sales relationship with the main plant. On the arithmetic curve, it appears as though the main plant sales increase has run far ahead of the branch sales increase.

*Sales Dollar Chart*

An interesting method of arresting management's attention and emphasizing cost potentialities is to use the sales dollar chart. This is sometimes referred to as the "pie" chart. It indicates the segments of the sales dollar. This type of presentation places emphasis on the most important elements of costs and therefore stimulates action on those segments where cost reduction can be focused most profitably.

*Profitgraph*

With modern management clearly discerning the distinction between variable and fixed costs, the profitgraph came into its own as a useful tool for visualizing the per cent of profit or return on investment that can be realized at varying volumes of production. Similarly, such a chart permits a quick interpretation of the effect of sales price or cost increases or decreases. In addition, the break-even point of a business is likewise disclosed.

Naturally, it should be clearly understood that the profitgraph merely represents a snapshot of conditions as they exist at a particular time. The result will only hold within reasonable ranges of volume, since it is obvious that outside of reasonable ranges, changes in capital investment, with their effect on depreciation charges and return—and the break-even point—materially alter the aspects of profits.

These are merely a few illustrations to indicate the nature of charts in the scheme of modern report making. Carefully planned and logically developed graphic charts can be of inestimable value to modern management.

## Labor Reports

There is another area of accounting report making which looms up as a most important one. This is the general area of labor reports. We recognize that one of the most important problems facing industry in the postwar period is sound labor relations policies. Many of the decisions which management must make are going to stem from the kind of reports and statistics prepared by the industrial accountant. Up to this time, we have not done too good a job in this field. We have been content to present records of average hourly earnings, weekly take-home, hours worked, etc., and no serious effort has been made to develop the accounting data which will permit top management to have a better understanding of its industrial relations policy and to sift out, ahead of "grievances" all of the potential trouble spots. The work of the industrial accountant in this area will logically fall into two phases:

1. Statistics and data which must be developed in collaboration with the industrial relations department at the time labor disputes are being reviewed. I refer here to the statistics prepared for War Labor Board hearings, etc.

## STRAIGHT TIME HOURLY EARNINGS—FALL 1943

Tabular Summary of Hourly Earnings with Index Numbers
Showing Maximum Earnings Rates Related to
Average Male Unskilled Hiring Rate as 100

| | *Classification* | *No. of Empls.* | *Min.* | *Max.* | *Avg.* | *Index* |
|---|---|---|---|---|---|---|
| MALE | | | | | | |
| | Foremen | | | | | |
| | Salaried | 3061 | $1.23 | $1.89 | $1.52 | 282 |
| | Hourly | 536 | 1.01 | 1.64 | 1.25 | 245 |
| 1 | Toolmakers, Diemakers; 1st Class | 867 | 1.18 | 1.48 | 1.36 | 221 |
| 2 | Auto Screw Machine Set-up | 265 | 1.17 | 1.41 | 1.29 | 210 |
| 3 | Engine Lathe | 1302 | .87 | 1.36 | 1.12 | 203 |
| 4 | Welders—Electric | 2158 | .99 | 1.33 | 1.17 | 199 |
| 5 | Assembly—Final | 2625 | .89 | 1.33 | 1.11 | 199 |
| 6 | Machine Set-up | 1114 | .94 | 1.31 | 1.13 | 196 |
| 7 | Machinists—Maintenance | 1817 | 1.01 | 1.30 | 1.18 | 194 |
| 8 | Electricians | 2247 | .99 | 1.26 | 1.14 | 188 |
| 9 | Machine Operators—Production | 12069 | .78 | 1.24 | 1.07 | 185 |
| 10 | Process—Highly Skilled | 1537 | 1.07 | 1.19 | 1.15 | 178 |
| 11 | Process—Skilled | 4676 | .99 | 1.19 | 1.08 | 178 |
| 12 | Process—Semi-skilled | 5046 | .84 | 1.13 | .95 | 169 |
| 13 | Drill Press Operators | 1070 | .76 | 1.12 | .93 | 167 |
| 14 | Assembly—Subordinate | 2805 | .78 | 1.10 | .91 | 164 |
| 15 | Mechanics Helpers | 7064 | .85 | .95 | .90 | 142 |
| 16 | Janitors and Porters | 2104 | .73 | .85 | .78 | 127 |
| 17 | Unskilled Men—Production: Average Hiring Rate | | .67 | | | 100 |
| FEMALE | | | | | | |
| | Foreladies | 328 | .70 | .85 | .80 | 127 |
| 1 | Weavers | 466 | .82 | 1.03 | .91 | 154 |
| 2 | Bench Assembly | 13391 | .54 | .98 | .72 | 146 |
| 3 | Machine Operators | 11384 | .56 | .95 | .79 | 142 |
| 4 | Other Production | 9985 | .58 | .90 | .75 | 134 |
| 5 | Miscellaneous | 1135 | .59 | .90 | .74 | 134 |
| 6 | Inspectors | 4061 | .57 | .88 | .75 | 131 |
| 7 | Common Labor | 514 | .67 | .76 | .72 | 113 |
| 8 | Packers | 446 | .50 | .72 | .65 | 107 |
| 9 | Unskilled Women—Production: Average Hiring Rate | | .57 | | | 85 |

EXHIBIT 10

2. The second area is the day-to-day and week-to-week reports and statistics which must be given to supervisors and top management in order to guard against grievances coming into being.

What are some of the reports and information which should be available in order that management may intelligently appraise the labor relations problem? Some of the more important are mentioned below.

*Trend in Labor Rates.* We ought to have comprehensive statistics and data to show the trend in labor rates. This might be in the form of a report or chart showing the percentage of employees in each pay bracket. If this is comparative for two or more periods, it indicates clearly any shifts which have occurred. Statistics of this nature give management a clearer view of wage rate trends.

*Relationship of Rates to Other Factors.* Rate data compared with an area, or with rates paid throughout the industry, should also be available to top management. In presenting the complete data on labor relations to the industrial relations manager and other top management, it is going to be necessary to do something more than simply report bare earnings and rate data. Accountants will have to include information with greater economic significance. From the experience flowing out of labor relations over the past five years, we recognize that wage demands are related in some instances to profit experience. We ought to be prepared, therefore, to show the relationship between wage rate trends and profit and dividend experience.

*Straight Time Hourly Earnings.* Any opportunity to analyze the effectiveness of job evaluation principles must not be overlooked. The statement on the preceding page shows earnings of male and female workers by job classification. The significant point is the relationship of these earnings to the base earnings of unskilled help. With an analysis of this type, management has an opportunity to determine the effectiveness of its wage rate policy.

The important thing to remember is that a sincere effort must be made to analyze carefully all phases of labor problems in order that management may have the facts upon which to base a sound labor relations policy. Our experience in the prewar years and during the war indicates that the accounting reports for this phase of management have been rather weak. While important progress has been

made under the impetus of collective bargaining, we still have a long way to go in setting out "before the fact" information for American management.

### Interpreting and Selling Reports

It has not been my intention to cover every possible report prepared for modern management, but rather to try to illustrate those principles of modern report making which we established at the beginning of this discussion. The sole purpose was merely to stimulate our individual imaginations in order that we might question seriously whether or not our present methods or systems of reports are adequate for modern management in the tough competitive era ahead, and whether or not our particular reports are being utilized most effectively.

Common sense dictates, however, that soundly conceived reports are not in themselves enough; the ideas which such reports contain must be sold.

The field of accounting today extends far beyond a knowledge of accounting principles. These are fundamental, but unless these principles are crystallized in vivid, dynamic reports that are the basis for constructive action, the science of accounting is a somewhat hollow science. The task of the modern accountant, as I have stated, does not end with the preparation of effective reports based on sound accounting principles; the ideas embodied in these reports must be sold.

Of necessity, this viewpoint means that the accountant must be familiar with all phases of the enterprise. As the eyes of management, it means he must be able to form judgments intelligently and point out the significance of the statements and reports he prepares. He must be familiar with broad social, political, and economic trends. He must be able to sell the ideas his reports disclose.

Yes—*sell*—the toughest kind of selling at times, because it is selling ideas, the most intangible of products. But sell he must, and this means he must be a good psychologist. He must know how to attract attention to the ideas he would sell, logically prove them, and convince. This is the role of the modern accountant.

So, then, we round out the circle of our discussion. We established that modern reports are merely one segment of this thing we call modern competitive business. Now we see that these reports are only as modern as the accountant who prepares, interprets, and sells

the ideas they disclose. Well, then, may we conclude this discussion on the need of modern reports for modern management by asking *"Is the accountant—are we—equipped for and prepared for the important task that lies ahead?"*

# NEW PROBLEMS IN CONTROL OF DISTRIBUTION COSTS

ROBERT N. WALLIS
Assistant Treasurer, Dennison Manufacturing Co., Framingham, Mass.

AT THE END of World War I, cost accounting was just beginning to come into its own. The National Association of Cost Accountants was founded in 1919. Pioneers were beginning to make tremendous strides in the development and application of standard costs, modern burden developments, and other cost accounting devices which have long since become commonplace. If the technical literature of the period is at all indicative, however, the emphasis was almost wholly on manufacturing costs. *N.A.C.A. Bulletins* of the early twenties dealt with such matters as "Distribution of Overhead Costs," "Methods of Collecting Direct Labor Costs," "Accounting for By-Products," "Interest as a Cost," and "Cost Accounting for Specific Industries." Only occasionally was there any reference to the problems of the control of the costs of distribution. In 1922, William B. Castenholz presented a paper entitled "Application of Selling and Administrative Expense to Products." From time to time, there were other sporadic outbursts which gave indication that some members of the accounting profession were beginning to recognize the fact that costs were incurred, which perhaps required control mechanisms, in the field of distribution as well as in the field of manufacturing. In the latter part of the twenties, these outbursts became more frequent, and through the thirties, many writers, spearheaded by such well-known names as Castenholz, Greer, Titus, Neilsen, and Freeman, turned their attention to the highly complex matter of distribution costs.

Then in 1940 there came an abrupt halt. The index of N.A.C.A. publications reveals few recent references to distribution costs. It definitely was no longer a "hot" subject. During the war years government contracts, excess profit taxes, priorities, renegotiations, and terminations have occupied the center of the stage. During this period also, the job of merchandising, promoting, and selling has been of less importance than the job of getting goods manufactured. Problems

which existed in a buyer's market disappeared in a seller's market. Selling went into reverse. It became a case of trying to persuade customers not to purchase merchandise. Sales forces have diminished and, in many cases, have vanished almost completely.

As the period of reconversion draws near, it becomes increasingly clear that distribution will again be industry's major problem. American industry has demonstrated to the satisfaction of the most skeptical that, given an adequate market, our industrial machinery can produce almost any product in unlimited quantities. The reason why industry has had no major distribution problems in the last four or five years is because the United States Government and its allies have furnished an insatiable market for its products. This, we hope, will not continue indefinitely. Before long, we will have to create and cultivate our own markets again. It is altogether proper, therefore, that cost accountants again turn their thinking to the subject of distribution costs.

*Distribution vs. Production From Cost Viewpoint*

For purposes of this discussion, the field of distribution is considered to include all operations concerned with order handling and order getting. In considering this subject, accountants have frequently fallen into the error of assuming that techniques which gave good results in the field of production should give equally good results when applied to distribution. This is not so. The very nature of the cost elements in distribution differs widely from those in production. A fairly large proportion of production costs falls in the category of direct costs. In other words, their amounts can be measured accurately and the purposes for which they were incurred determined precisely. This category includes direct labor which certainly is possible of accurate measurement and specific allocation. The same applies to direct materials. Furthermore, there are certain reasonably good yardsticks for allocating most of the elements of joint costs. Production time, material usage, capital asset usage, number of employees, all represent sound bases for reasonably precise measurements in the allocation of overhead costs.

In the field of distribution, on the other hand, there are no such obvious yardsticks. Labor is never direct. It is always concerned with many different orders, commodities, or projects. Accurate timekeeping of the convolutions of a salesman's mind and of the subject matter of his conversations when in the presence of buyers is

obviously impossible. In this field, we are dealing almost entirely with joint costs. It follows, therefore, that the control of distribution costs calls for new techniques. It is almost necessary for us to forget most of what we have learned about the control of manufacturing costs and approach the distribution field with fresh minds. Because of the nature of the problem, the need in this newer field is for a number of yardsticks, a great variety of standards of measurement against which performance can be checked.

*Nature of Distribution Controls*

Controls over distribution costs are needed for two major purposes:

a. Pricing (products or lines).
b. Operations (actual vs. standard).

Prices ordinarily are not set on the basis of costs. Nevertheless, reasonably accurate costs are vitally necessary in the pricing operation in order to determine whether a given item or sale will be profitable, or whether some steps must be taken to obtain a proper price-cost relationship. For this purpose, a reasonable allocation of distribution costs is important. As Mr. Greer pointed out in his excellent paper at the 25th International Cost Conference in 1944, it is about as sensible to leave out distribution costs in gauging selling prices as it is to leave out factory overhead.

For purposes of establishing cost control of distribution operations the general factory procedure of establishing standards per cost unit still is good. It is the cost units which will vary. A few suggested units which may be useful are cost per call, per ton, per order, per dollar sales, per customer, per territory, etc. New techniques are needed for collecting the basic cost data, so that actual costs can be compared with standards and the reasons for variances determined. Such techniques are at once increasingly desirable and increasingly difficult to establish as operations become scattered geographically. Nevertheless, the cost of operating central sales offices, sales territories, branch warehouses, etc., needs some sort of check if we are to achieve the desired end of effective distribution at the lowest possible cost. Let us look, therefore, at some of the operations which go to make up the total field which we call distribution. As stated earlier, these operations can be grouped into order handling and order getting.

*Order Handling*

Order handling is that portion of distribution which most closely resembles production. It includes the clerical operations incident to accepting, entering, shipping, and billing the customer's order, and collecting his payments therefor. It also includes the operations of warehousing finished merchandise, as well as those of filling, packing, and shipping merchandise, and the cost of transportation. The subject of cost accounting for order handling operations has been discussed in *N.A.C.A. Bulletins* in times past. For example, the *Bulletin* of January 15, 1933, contained an article on the subject of "Development of Standard Order Handling and Order Filling Cost Rates" by F. J. Naumann. The *Bulletin* for December 15, 1936, contained an article on the subject, "Standards and Wage Incentives for Office Activities," by A. C. Farrell. Other *Bulletins* have dealt with this problem either in whole or in part. Suffice it here to set down briefly some of the basic principles involved in the hope of stimulating the thinking of the reader in a field which should not be too foreign to his previous experience.

In the order handling operation, it is possible to establish without too great trouble some highly useful basic standards. These might include:

1. Cost per order.
2. Cost per item on the order.
3. Cost per invoice.
4. Cost per cubic content or weight.

These are merely illustrative; there may be others which in a specific case would be equally useful.

Variable budgets can be established for these factors. It does require the counting of the number of units (that is, the number of orders handled, the total number of items which those orders contain, etc.), but this is not a sizable operation, as compared with timekeeping in the factory. Such variable budgets indicate whether operations are within the standards and where cost reductions can best be sought if reductions are necessary. By analysis, the incidence of these factors can be determined for various types of products and various types of outlets. In fact, the breakdown can be for individual products or for individual customers, if either is important enough. There is no magic wand that will automatically produce

these figures. It is necessary to count, measure, tabulate, calculate, and summarize. But the machinery is not difficult, and if the results are considered worth while, the detail of producing the results will not be excessive.

By the use of such factors, order handling costs can be developed for pricing purposes, not only for individual products and groups of products, but also for types of customers and even for geographical locations of outlets. If such factors are applied to branch warehouses, one warehouse can be compared with another. If they are applied geographically, one section of the country can be compared with another. If they are applied to customers, one type of trade can be compared with another.

Generally speaking, the order handling operations are under some sort of central control. More often than not, most of them are performed right at headquarters under the very nose of the cost accountant. Even in those cases where they are performed at branches, they are still under control. It should be no more difficult to keep whatever detail may be needed for controlling these operations than it is for controlling factory costs.

*Order Getting*

Order getting costs are something else again. Under this heading come operations which fall into three broad categories:

1. Selling.
2. Sales promotion.
3. Merchandising (merchandise development and management).

These operations are ordinarily widely scattered geographically. If we wish to have adequate detail, we must rely on persons not under our immediate jurisdiction. For example, each salesman must be his own timekeeper. Obviously, we can't send a clerk along with him. If we could, we could ask the clerk to furnish all sorts of data. Salesmen, however, can be asked for only so much record keeping and are apt to supply less than we ask for.

Joint cost problems predominate. For example, salesman Jones goes to East Overshoe, which is 60 miles from his headquarters. Because it is a fairly sizable town and he has some important accounts there, he plans to spend two days. He starts early in the morning and stays over night at the local hotel. During his stay, he

makes twelve calls, three of which result in immediate orders, two in subsequent mail orders, two result ultimately in orders after two or three more trips to the town, and the remaining five are unproductive. He has spent two days of time and incurred certain travel expenses. The problem of the accountant is to determine just how these costs can be allocated to furnish the basic cost data which may be required. What is the cost per order, per unit of product, per call, per customer?

It must be obvious at once that certain arbitrary assumptions must be made, assumptions which are far more arbitrary than the assumptions on which the allocation of factory overhead costs are made. There is no one right answer. The cost accountant, looking at the problem objectively, should take into account all of the elements of the specific problem on which he is working and reach his conclusion on the allocation of joint cost in the light of all the elements. The same conclusion applies to all branches of the order getting operation. Let us look a little more closely at each of the three principal divisions for the purpose of examining the factors involved and considering some of the things we might do to establish more effective cost control over these operations.

*Selling*

In the selling operation, the individual customer is really the basic unit. The customers are grouped geographically into communities and into individual territories. The first object should be to determine the time and selling effort required by each territory or customer, in relationship to the sales therefrom in terms of total product and perhaps of individual types of products, and to establish suitable standards. This is a simple statement, but it is a rather complex problem. There are a great many variable factors. For example, territories are of several types. A simple classification would be city, suburban, and country territories. Likewise, there are several types of customers, for example, large and small, distributor and user, Trade "A" and Trade "B," etc. Each business has its own classification. Furthermore, the products manufactured by most industries vary considerably. Some firms sell standard stock merchandise, as well as special, made-to-order merchandise. Some sell bulk as well as packaged products.

In order to establish standards of operation, we must take these variables into account. The classification of factors should, of

course, be built to fit a particular situation. Further than that, such classification should be sufficiently detailed to yield useful results and yet not in so much detail as to be impractical. This poses a problem for the accountant. But after all, it is not greatly different from the problem which he faces in the field of production where he is called upon frequently to weigh the value of certain cost analyses against the cost and difficulty of making them.

Selecting the factors on which standards are to be set is one-half the problem. The other half is analyzing the types of expenditures. In selling, two items of cost frequently make up about 70 per cent of the total selling expense. These two items are salesmen's compensation and salesmen's travel expenses. In addition, there are branch office expenses, costs of sales management, and, we might add, the cost of training new salesmen, because this is apt to assume considerable proportions during the next two or three years.

There are certain over-all regional (or branch) selling controls, which very likely are established techniques in many industrial enterprises. These include:

1. *Sales budgets.* The sales budgets should be realistic, based on market potentials. Market research is a very useful device to employ in this connection. But in any event, the sales budget should not be set way above any normal expectation, purely for the purpose of trying to stimulate the sales organization to greater effort.
2. *Expense budgets,* which should be set up as standards against which actual performance can be checked.
3. *Compensation plans* (bonuses, commissions, etc.).
4. *Territorial coverage plans.* These would include standards for frequency of trips and calls, standards for dollar sales, and expense. They would be targets to shoot at.
5. *Traveling budgets* and schedules (standard).
6. *Standards for branch office* costs based on volume of work handled in giving service to customers and salesmen.

These cost analyses are similar to the order handling problems discussed earlier. There may be other sorts of over-all regional selling cost controls, but the foregoing list at least serves as an illustration. The important point to recognize is that standards can be developed for all of them.

Within each region or branch, there are certain specific or territorial controls which are of great importance in determining whether the time and effort required by each territory and customer is commensurate with the sales obtained. The first of these is the over-all "Analysis by Territories." Sales management is or should be interested in determining for each salesman the dollars of sales received as against a budget of sales for his territory. It is, or should be, interested in the actual compensation and travel expense as compared with budgeted compensation and travel expense. The ratio between these two factors is important, that is, the actual cost per dollar of sales as compared with the standard or budgeted cost per dollar of sales. If selling controls are maintained by major products or major groups of products, sales management is interested in knowing the actual results as compared with the standard analyzed by products.

Since travel costs are important in many territories, certain summaries are desirable. These might include the number of trips as compared with standard, and the amount of travel cost as compared with standard. This latter might be expressed in relationship to sales in each case. The results obtained from each town are frequently of importance to the sales manager. Actual vs. budgeted figures for sales, trips, and days spent in the town might be further analyzed by products sold.

In any detailed analysis of the salesman's operating results, the most important factor is the customer. First of all, sales management is interested in the actual sales to each customer as compared with some sort of standard. This standard may be an estimated potential, a budget, or past results with the customer. It may be a combination of two or more of these elements. Sales management is also concerned with the products sold each customer. This can be expressed in terms of tonnage, in terms of dollars, or possibly in some other unit. Sales management should also be interested in the number of calls actually made on the customer, as compared with standards which have been set up on the basis of the customer's potential. Much of the ineffectiveness of selling effort is traceable to the fact that the salesman calls too often, or not often enough. Sales management also is interested in the orders which are lost to competitors. This is one of the hardest possible kinds of statistics to obtain, but to the extent that they can be obained, they are most useful.

In Exhibit 1 is shown a suggested form for recording customer results. This form can only be illustrative because it was designed for a hypothetical situation. The actual design of the form, and the material contained thereon must necessarily depend on the individual case. Such controls may be too elaborate for a specific company. There may be too many of them. On the other hand, there may not be enough. Certainly the well-known cost accounting principle should apply here, viz., that analyses and summarizations should not be prepared if they serve no useful purpose.

General sales management at headquarters needs certain summarizations of these more detailed records. For example, it will certainly want the regional summarization of territorial results as compared with standards, so that it can compare one region with another. Depending on the situation, it may want copies of the territorial results outlined above. Certainly, if general sales management is to do an effective job of cost control, it needs enough background information to discuss with branch managers the operating results as compared with standards.

*Sales Promotion*

In the field of sales promotion, advertising agencies have developed excellent techniques for checking the effectiveness of the programs of their customers. In general, sales promotional activities fall into three broad fields, viz.:

1. National advertising through magazines, newspapers, radio, billboards, etc.
2. Direct mail advertising.
3. Promotional services to dealers.

Each of these media is used to obtain certain results. The costs should be classified and tabulated, and, in so far as results are ascertainable, they should be set against such costs.

Some of the ways of proving the effectiveness of sales promotional activities are:

1. Inquiries from keyed advertisements.
2. Orders received as direct result of advertising.
3. Surveys.
4. Establishment of standard relationships of inquiries to advertising costs and to over-all sales.
5. Test campaigns.

CUSTOMER ANALYSIS Period——————————Territory

| Customer | Trade | Class | Number | CALLS | | SALES | | | | Potential | % of Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Act. | Std. | Product | Value | Budget | % of Budg. | | |
| A.B.C. Provision Co. | Sausage Mfr. | C1 | 156003 | 4 | 3 | 892 | 230 | 200 | 115% | 500 | 46% |
| XYZ Corporation | Elec. Appl. | C5 | 16534 | 22 | 24 | 522<br>537<br>813<br>Tot. | 375<br>1892<br>433<br>2700 | 3000 | 90% | 3000 | 90% |
| etc. | | | | | | | | | | | |
| A | B | C | D | E | F | G | H | I | J | K | L |

Notes

Columns A, B, C, & D relate to the customer, showing trade, general classification, and account number.
Columns E & F show actual calls compared with standard.
Column G gives the detail of sales by broad product groupings.
Columns H–L give comparisons with predetermined standards.

No cost data are shown, but if a formula for allocating joint costs by customers were evolved, columns comparing estimated actual costs with standards could be added.

EXHIBIT 1

In general, the advertising department has become accustomed to keeping its own score. The results can never be measured accurately; they are always intangible; yet we know that advertising and sales promotion is necessary to keep most businesses alive and operating. On the other hand, costs can be excessive. There is an opportunity here for the cost accountant to bring to the analysis of advertising and sales promotional activities the same objectivity which he uses in considering factory expenditures.

*Merchandising*

Merchandising is in the nature of general management. It involves the determination of what will be manufactured, how it will be promoted, the selling points of the product, its packaging and pricing, and the trade for which it is designed. What is called "merchandising" here may be called "engineering" in some technical industries, and "general management" in other industries.

Certain controls over the merchandising operation are essential in any multiple-line industry. In the first place, some record of sales by commodities is needed, showing quantity and dollar sales for each commodity, as well as either gross or net profit on such sales. Such an analysis is more useful if it is broken down by regions or branches, and also by trades (provided the enterprise sells more than one trade). In every case standards or budgets should be developed and used to check actual results. By such reports, the relative strength of commodities and outlets can be analyzed, and action can be indicated on weak items. Such action would fall in the field of reducing costs, reviewing pricing policies, setting up sales promotional activities, revising packagings, redesigning the product, etc.

*Role of Cost Accountant*

What is the role of the accountant in the field of distribution? The answer depends a great deal on the organizational setup of the individual company. Because accountants pretty generally have dodged responsibility for distribution costs, the marketing divisions of many corporations have set up their own control statistics within their organizations. Marketing officials are apt to look on cost accountants as men without any understanding of distribution.

However that may be, the controller's division is vitally concerned with the economical operation of the distribution unit. He is equally concerned with the whole field of pricing as well as the relationship

of marketing policies, in so far as they affect costs and profits, to the other divisions of the business. Certainly the controller's division maintains the general accounting records of the marketing organization. Very likely, it also produces the general statistics used in marketing.

But in many organizations, this is as far as the accountant goes. Beyond these things (provided, of course, the accountant wishes to go beyond these things), he must first familiarize himself with distribution problems. He must know what statistics are now being prepared, and how they are used. He must search out their shortcomings and look for areas of usefulness for which no statistics are presently available. He must determine whether standards have been developed, and if not developed whether they are feasible and for what operations.

When he is well prepared, he must discuss with the sales management the points of attack and obtain approval of what he seeks to accomplish. His next step is to develop the techniques required. These involve the preparation of forms, reports, and instructions, and the establishment of the routines of gathering the necessary statistics and of summarizing. Finally, he must edit and interpret the results.

It will be a slow battle. Overnight results cannot be expected. It is unlikely that much progress will be made from month to month. In the first place, the accountant needs education in marketing. He needs an understanding of the problems of marketing and distribution. He needs to learn how to make himself intelligible to sales management. He must recognize the fact that outstanding salesmanship requires characteristics which ordinarily make the individual impatient with excessive red tape and technicalities.

The opportunity is certainly present. Marketing organizations today are short-handed. They are faced with many problems in connection with the rebuilding of their organizations and the re-establishing of their markets. The problem is complex. The experience and techniques which have worked in controlling production cannot be lifted bodily and applied to distribution. It will require imagination, resourcefulness, and something more than a superficial idea of marketing operations and problems to enable the cost accountant to shift from the well-organized field of cost control for production to the relatively unorganized field of cost control for distribution.

# SECTION IV

# THE PUBLIC RELATIONS JOB

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## Improved Public Relations Through Improved Public Reports

Much of the information which the public receives on industry in general and on specific companies is present in accounting language and in figures. The accountant's job is to present accounting information; thus, the main responsibility for bringing understanding of business to the public falls on the accountant's shoulders. More and more accountants are becoming aware of their responsibilities in the field of public relations, and no discussion of the industrial accountant's job in the postwar period would be complete without reference to this aspect of his responsibilities.

In this section of the Year Book, William H. Franklin, Controller of the Caterpillar Tractor Co., points out the shortcomings in public relations in the past and suggests ways in which the accountant can assist his company in doing a truthful and effective job of keeping the public informed.

# IMPROVED PUBLIC RELATIONS THROUGH IMPROVED PUBLIC REPORTS

WILLIAM H. FRANKLIN
Controller, Caterpillar Tractor Co.,
East Peoria, Ill.

"DID YOU see in the paper this morning that Hope's (the largest local manufacturing company) made nearly nine million last year?" Joe, the proprietor of the local shoe store, was perched on a stool at the counter of the corner restaurant talking to Art, the owner of the restaurant.

"That ain't hay," Art replied. The nine million, it so happened was the so-called profit before taxes, but profit was profit to Joe and Art.

Joe continued: "And that isn't all! They've got a surplus fund, or something, of twenty million. What I couldn't do with that kind of money. One of the boys that works for them was in to see me yesterday. He's got six kids and he's trying to hand-me-down shoes from one kid to the next. You can bet your boots that if Hope's paid decent wages, I'd sell shoes for his whole family."

Now Art was in the same mood. "All they do is pile up the dough for the stockholders who have all they need now. If they'd cut that surplus melon up, I bet my business would boom plenty, too."

*The Public Misconception of Financial Operations*

Business in this country has succeeded in its production job beyond all expectations of our enemies and even beyond the expectations of all but the boldest in business itself. Previously business succeeded in mass selling and mass distribution beyond any economic society ever previously established anywhere in the world. But this same business has failed miserably in educating the public to an understanding of its financial operations. Until recently the necessity of such an understanding was not even appreciated and even now only a few thorough-going attempts at a good public relations job have been made. The public misconception of the financial opera-

tions of business is appalling. Joe and Art believe they understand, and their cases are all too typical. A good public relations job must attempt to sweep away the misconceptions of the past in the minds of the public.

What is this public which must be reached and educated? It is Joe and Art, the independent grocery store operator, the farmer, the doctor, and the dentist. It is the employees of business, the customers for its products, and, yes, the stockholders also. This public is one homogeneous mass of people who, to a considerable extent, think and act and believe alike. There has existed in the past too often a concept of isolated groups. The stockholders as distinct from employees and the public as distinct from either. It was, and still is, believed that different stories should be told to each. The stockholder was interested in this fact, but the employees should be told that fact. Only recently has the similarity between the groups in interests and in beliefs been recognized.

This public believes what it is told in language it can understand. Joe knew no fine points of distinction between profit before taxes and profit after taxes. To Art surplus was surplus and an end to it! Can we blame these people for such misunderstandings when many companies no longer even use the word "profit" but rather use in inappropriate cases the weasel-words "income" or "revenue"? Can we blame the public for its misunderstanding when business appears afraid to tell its own story? And yet the success or failure of business is vital to the entire public. Joe and Art are perfectly right; if the Hope Company raised wages or cut up its surplus melon, more shoes would be purchased—for a while. But if business cannot strengthen itself and grow through honest profits honestly earned, in the long run no shoes will be sold.

The problem confronting business, then, is to bring to this public an understanding of the financial problems of business. With understanding will come faith and sympathy with the problems of business and even trust in the management of business. Only with such an understanding can we down the all too prevalent philosophy: "Soak the corporations; soak big business; it can't hurt me."

*The Accountants' Responsibility*

The financial operations of a company are recorded and reported by accountants and, whether we like it or not, the main responsibility for bringing understanding of business to the public falls on the

accountants' shoulders. It is true, of course, that many others have a part in telling this story, viz., the advertising manager, the directors of industrial and public relations, the treasurer, and many others; but it is uniquely the problem of the accountant to present accounting information, and the proper presentation of accounting information lies at the heart of the problem.

This, then, is the responsibility of the accountant. And what does the accountant do? He answers with double talk. The doctor who in the old days explained to his patients their sicknesses in Latin or in English words of no less than eight syllables has long since been scorned out of existence; the lawyer who expresses his legal opinions in language only another lawyer can understand soon finds himself without clients. The accountant, however, has been far worse for he uses language a layman thinks he understands. And what a misleading language it is! "The value of fixed assets is $15,000,000, but of course I don't mean this is what those assets could be sold for; I mean this is the going-concern value." He does not mean value at all, but he has not as yet admitted it. "The surplus of the company is $20,000,000, but of course I don't mean that this is excess funds." Examples of such double talk can be multiplied almost without end. Can we blame the public for not understanding us?

The accountant must awaken to his responsibility of presenting accounting information clearly and in intelligible language so that he who reads may understand, or, at the very least, will not misunderstand. If the accountant fails to measure up to this responsibility, the least damaging effect will be that others, less adequately equipped, will tell his story for him. Or at the worst, the public will continue to misunderstand and will blindly believe the stories of those who for selfish reasons tell any story but the truth. With such belief will come distrust of business and sooner or later a substantial weakening of the profit system.

*The Annual Report*

Keeping the accountants' responsibility in mind, let us apply a little garden variety of horse sense to this problem of telling the story of the financial operations of the company to the public. Forget for the moment tradition and custom; it has failed in the past. Let us re-examine the problem without the dust of ages obscuring our thinking. The so-called "annual report" of a company is the main medium

used for telling this story, and the major emphasis of our consideration must, therefore, be given to this document.

At the start, the annual report was considered only a necessary evil. Management really ought to tell the stockholders something, it was felt, but as little as possible. The less anyone knew of the business operations, the better. Think what the employees, the public, and especially the competitors could do if any facts were given them! The style in annual reports was then a drab, short document of as few pages as possible containing a list of officers, as short a letter from the President as he dared write, and a balance sheet. Only the most daring companies presented an income statement and, when they did, carefully eliminated sales and as many other figures as possible.

This thinking is now, happily, almost extinct. Almost without exception corporations today recognize the responsibility of more complete disclosure. But with this recognition has come also a desire to propagandize, a desire to belabor the trend of the times, an overeagerness to be sure current evils (from management's viewpoint) are driven home to the reader. This latter trend is also, I believe, on the wane, if for no other reason than that management is beginning to recognize the ineffectiveness of its propaganda.

*The Report Should Tell the Truth*

As a first principle in the construction of a proper annual report, then, let us take the principle that it should at all times tell the truth, fearlessly and unequivocally. With this I am sure any thinking man will agree. It is not always easy, however, to be sure the report tells the truth, for telling the truth is much more than simply avoiding a lie. Words are used to convey thoughts and ideas and facts to a reader, and unless these are conveyed correctly, the author has failed. The conveyance of misinformation or misleading information to a reader is as serious as a deliberate falsehood, and it matters little whether the misinformation was intentional or not; the result is the same. When we consider the great number of readers of annual reports and their varying degrees of education and ability, the problem of telling the truth becomes most exacting. I submit that the great majority, if not all, annual reports issued today are chock full with misinformation. I do not mean, of course, that many are issued with deliberate attempt to mislead. The misinformation is inadvertent; but it is present, and the reader is fooled. The reports

do not tell the truth. This misinformation can be classified into four main types. Let us examine each of them more fully.

*Common Words Used in a Technical Sense*

The first type of misleading information which I have already mentioned briefly is the use of common words which the layman believes he understands in technical and uncommon meanings. These technical words must be stricken from the annual report before we can even begin the task of correctly informing the public. As an illustration, let us examine the word "value" and its direct descendant "net worth." We speak of inventories "valued at cost" or "valued at cost or market, whichever is lower." We speak of the fixed assets "valued at cost less accrued depreciation." To accountants, these concepts are understandable and proper. To a layman, value is value, and it means the amount which these assets would bring in the market place. And then we cap the climax by speaking of the "net worth" of a company. To a layman this means the value of the company. Can we blame him for overlooking in this value such intangibles as customer acceptance of the company's product, the company's good name, whatever patents and trade-marks it owns, the experience of its management, and even its prospective earning capacity? The accountant leaves all these factors out and speaks of net worth. Of course, the accountant means value and net worth computed in the books of account on a "going concern basis," but the layman has never heard of such a basis and would have difficulty understanding it if he were told of it.

As another illustration, consider the word "reserve." To a layman, this word means something set aside to be used in the future, this and nothing more. The accountant uses the word in at least four different meanings, none of which is the same as the layman's understanding. First, there is the "reserve for bad debts," which is merely an estimate of the bad accounts, known and unkown, included in accounts receivable. Second, there is the "reserve for depreciation," which is simply the portion of costs incurred for fixed assets allocated to the operations of the current and prior years. Third, there is the "reserve for federal income taxes" (an expression happily almost extinct) which is a liability and nothing more. And finally, there is the "surplus reserve" which, with all respect for the necessity of such reserves at appropriate times, is merely a bookkeeping entry.

But the word "surplus" is by far the most misleading of the lot.

I agree with the public's inevitable conclusion that if a company truly has a surplus, then by all means it should get rid of it by lower prices, by higher wages, or by increased dividends. Of course, accountants do not mean surplus in that sense. If we are to inform the reader correctly we must find another phrase. My own company, Caterpillar Tractor Co., used the phrase "profit retained in the business" in its 1944 annual report, and I submit this phrase as a possibility. Incidentally, from many comments on our 1944 report, this terminology has been well received.

While I am on this subject, may I add that the phrase "balance sheet," while perhaps not necessarily misleading, is certainly not informative. As a title, the phrase does not describe the statement which follows. Is not "statement of financial position" more informative?

*The Structure of the Balance Sheet*

The second type of misleading information is the very *structure* of the balance sheet. Today's balance sheet is merely a classified trial balance, an accident of double-entry bookkeeping. It expresses an apparent equation: total assets equal total liabilities plus net worth, and this equation is meaningless. I can still remember some years ago my cousin insisting that it was impossible to add up all the assets of a company and all its "liabilities" and have the answer come out to the exact same figure down to the last penny. Of course, it is impossible, but the balance sheet indicates we have tried just that and succeeded. Is it any wonder the public begins to doubt? In justification of this meaningless equation, accountants have gone to extremes. I have recently read an article, for example, which stated that the liability side of a balance sheet set forth the equities in the assets shown on the asset side: these equities being the equity of vendors, the equity of bondholders, and the equity of stockholders. That vendors have any equity in the assets of a company, I am sure both the vendors and the stockholders will quickly deny. The bondholders may often have a lien on certain assets, but there is a world of difference between a lien and an equity.

I am convinced that a balance sheet does not portray an equation at all, but rather presents the financial position of a company from two different viewpoints. It presents first the financial position as the net result of inventorying assets and liabilities as of the given date, a cross-cut of the result of financial transactions as of one

moment in time. It presents, second, the historical evolution of the financial position (the so-called net worth section) through receipts from stockholders, through the retention of profits by the company, etc. Since two aspects of the same thing are portrayed, of course they are equal. If this be a true conception of the balance sheet, then the proper structure would be to deduct liabilities from assets to obtain the capital shown by the books of account, and as a second section of the statement indicate the derivation of this capital through receipts for stock, through retention of profits, etc. In the financial statements of Caterpillar Tractor Co. as released for 1944 and as reproduced in the April 15, 1945, *Bulletin,* this structure has been adopted.

*The Customer's Dollar*

The third type of misleading information is the more and more prevalent emphasis on the so-called customer's dollar and its distribution. Annual reports today are filled with "pie" charts and other clever devices designed to show what an astonishing slice of the customer's dollar goes to employees and what a small slice, after all, goes to stockholders. A more recent variant of this same philosophy is a statement in which so-called "payments to outsiders" are deducted from sales to obtain the net melon to be cut up by insiders. This statement shows, of course, that employees get almost all of this melon and that the stockholders get very little. Management might just as well add at the bottom of this statement: "So what are you kicking about, labor?"

In the first place, anyone even superficially acquainted with business knows to what extent business exigencies affect the distribution of the customer's dollar. Decisions to make or to buy, decisions to subcontract, inability to obtain proper deliveries or quality from vendors, and many more problems have a great bearing on the allocation between payments to outsiders and payments to employees. And none of these problems has any bearing on the fundamental problem of paying proper wages and at the same time obtaining proper profits.

But even more fundamentally, the entire concept is wrong and misleading. "Pie" charts and the other devices convey to the reader the impression that all there is to business is a gathering in of customers' dollars and paying them out again. It is too much like the King's horses who marched down the street and marched back again. The impression is given that all a business does in setting a price is

a little cost-plus arithmetic, and the logical conclusion from all these impressions is that if labor or stockholders want a bigger slice of the customer's dollar, just ask for it. All the company needs to do is raise prices, and everyone is happy. Anyone who has ever had to set selling prices in the full competition of the open market place will quickly deny that business is as simple as these "pie" charts suggest. And certainly profits are not dollars conveniently sliced off a customer's dollar. They are sweated out between the twin pressures of competitive prices on the one hand and competitive costs on the other hand.

*Propaganda*

The fourth and last type of misinformation contained in today's annual reports can only be classified as propaganda, and here we are voyaging into a land of controversy. It is often only a matter of opinion as to when truth is distorted into the realm of propaganda, and often the reaction of the reader of the reports determines whether an item of information becomes propaganda. This reaction, moreover, is so far foreign to the reaction of an accountant that the accountant can hardly judge the impression he is leaving with the reader.

An illustration of such borderline cases is a figure often found in annual reports representing the investment of a company per employee. Sometimes this is the investment in fixed assets only using either total cost or cost less depreciation; sometimes it is the investment in total assets. This calculation is often of aid to the accountant and trained analyst for use in comparing the results of one company with another or in comparing the results of the same company at various times. When given to a layman, however, the calculation tends to perpetuate the fallacy that the balance sheet portrays the true value of a company, and for this reason I believe that the calculation misleads and should be eliminated. This elimination is, after all, no loss since any good annual report will present the number of employees and a balance sheet. Anyone who wishes to calculate the average current investment per employee as shown by the books of account can do so, and I believe that we are safe in assuming that a reader experienced enough to make such a calculation is also experienced enough to use the result properly. Another illustration of a figure often given in annual reports which is more clearly propaganda is a calculation of the dollars of taxes paid per

employee, or at times the dollars of taxes paid per share of stock. These calculations imply that if taxes on corporations were abolished, wages in the one case or profits in the other case would be the given amount higher. Anyone who believes this, is naïve in the extreme.

But simply for fear of being misunderstood, let us not back away from all figures and retire into our previous shell of nondisclosure. Recent surveys have shown that the public is afraid of big figures, that big dollars of profit in themselves seem evil, without reference to the size of the company and its profit requirements. On the other hand, profit in terms of percentage (and it did not seem to make much difference what kind of percentage) did not necessarily seem evil. We must, then, attempt to bring the larger figures down to earth so that the public can digest and understand them. No one understands a billion dollars, and even after years of colossal expenditures by the Federal Government, a million dollars still seems a huge fortune to all of us. The accountants who deal with these figures daily are accustomed to them; the public who sees them only occasionally and then in scare headlines in the newspapers is not. But dollars of profit per share of stock, dollars of dividends per share of stock, average dollars of dividends per stockholders normally will seem much less huge and consequently much less evil. Expressing profits in terms of percentage of sales will also help even though this percentage has lost a great deal of its value during the war period. By no means, however, should we show profits in terms of percentage of investment, for here again we are helping to perpetuate the fallacy that the balance sheet presents the value of the company.

*Full Disclosure of Pertinent Facts*

We have taken, then, as a first principle in the construction of a proper annual report the principle that it should tell the truth. The second principle which I would like to present is that the report should fully disclose the pertinent facts.

I believe that most people in management will agree that an annual report should fully disclose the pertinent facts *except,* and here we run into argument. The first big exception which most of them would make is the policy that no facts of value to the company's competitors should be disclosed. With this policy I cannot differ, but I do suggest that the value of any facts to a company's competitors is often highly exaggerated. In the old days, most companies

were even afraid to disclose the dollars of sales and even today some companies feel that this measure of volume is a dangerous fact to release. Our industry, I believe, is among those in the forefront in respect to full disclosure, and I can assure you that the figures released by our competitors do them no harm.

The second big exception which many would make to the policy of full disclosure centers around the natural desire of management to hide unfortunate happenings and adverse results. Most managements, I believe, recognize the responsibility of telling the whole story, favorable and unfavorable, and "let the chips fall where they may." Others, however, either through fear of their own jobs or through an honest belief that they are acting in the best interests of their company, feel that the annual report should be set on a tone of achievement as to the past and optimism as to the future, justified or unjustified. To those who so believe, I can only say that bad news will inevitably out, and both management and the company will be better off if the bad news is discussed frankly and openly at the earliest possible moment.

Let us then agree as a second principle that the report should fully disclose the pertinent facts. This policy, however, does not mean that every figure known to the accounting department should be put in the report. The reader of the report is usually a person who does not like and is not used to figures. A plethora of figures will only confuse and discourage him, with the result that he is as misled and misinformed as though only a few figures were given him. The accountant must strike a happy balance that is not too easy to obtain. I suggest that most balance sheets presented in today's annual reports are too detailed. In many cases, little is accomplished by detailed breakdowns of accounts receivable, inventories, deferred charges, accounts payable, all the myriad accruals, etc. If really pertinent facts are disclosed by such detailed figures, by all means give the figures, but if the presentation is pure habit, I suggest it is probably a bad habit.

A full disclosure, however, involves much more than a mere disclosure of figures derived from the accounting records. Often the significant facts lie behind the figures. As an example, the large majority of reports give the total expenditures for the year for fixed assets. The significant fact, however, is not so much the amount spent as what assets were purchased, of what benefit they will be to the stockholders and employees, whether capacity was increased

significantly, or whether the expenditures involved mere replacements, etc. Moreover, many pertinent facts are entirely disassociated from accounting figures. Information concerning labor relations, product improvements, changes in customer relations, new patents or expiration of old patents, etc., is often more important than the financial statements, or rather knowledge of these subjects is essential to a complete understanding of the financial results. The same considerations apply to statistics which are not a part of the financial statements but are essential items of information. Such statistics as the average number of employees, the average annual wages of employees and changes therein, average weekly and hourly wages, etc., are of value as are comparisons with national indexes of wage rates, production, etc. And above all, the average number of stockholders should be given. Let us emphasize this figure. Prior to the war, in company after company there were more stockholders than employees and yet the public still thinks of the owners of corporations as a few extremely rich men.

*Reports Should Be Complete*

The first principle was that reports should tell the truth and the second that reports should fully disclose the pertinent facts. The third principle, which I believe to be of real importance, is that the reports should be complete within themselves. All thinking analysts agree that a one-year interval is too short a period of time to use in judging a company's operations. Yet we cannot expect the readers of annual reports to save them from year to year so that the results of the current year can be judged with the proper perspective. Reports often are not saved and even if they were, the turnover of employees, stockholders, and the rest is so great that many are reading the company's report for the first time. The report should contain, therefore, information covering more than one year's operations. Many companies give comparisons of two, three, and even four years, but this is still not enough for a truly proper perspective. My own company for years has presented comparative balance sheets and income statements for the immediately preceding fifteen years, together with an analysis of capital stock and surplus accounts from incorporation in 1925; Eastman Kodak Company gives an "historical record of annual earnings and their distribution" from the date of incorporation of the company, 1902; Westinghouse Electric & Manufacturing Company presents a "twenty-year record of earnings";

United States Steel Corporation gives "U. S. Steel's operating story, 1902-1944" and "U. S. Steel's financial story, 1902-1944"; General Motors Corporation reports a "record of sales, net income, and dividends" from incorporation of the present company in 1917; examples of the presentation of this type of historical information are legion.

In this connection, I would suggest that accountants today are too reluctant to change accounting statements which have once been released. Simply because the statements have been once released, they should not be used intact from that time on if subsequent events indicate that significant changes should be made in them. It is perhaps worse than no comparison at all if operating results over a number of years are compared without adjustment for surplus entries (or more modernly, entries affecting prior years which are shown as unusual items on the current year's income statement). As a common example of the type of adjustment I have in mind, consider renegotiation refunds. Many of these refunds are made in amounts significantly affecting the income statements already released. By all means, when the income statement is next used for comparative purposes, it should be adjusted to reflect the refund.

*Reports Should Be Readable*

A fourth, and the last, principle to keep in mind when preparing annual reports is that everything possible should be done to make them attractive and readable. This principle already has been very widely adopted at least with respect to reports issued to employees, if not to reports issued to stockholders. Issuing a different annual report to employees than to stockholders is, however, a dangerous practice. At the best an "explanatory" report to employees insults their intelligence by implying that they have a lower level of understanding than the stockholders. At the worst, this practice leads the employees to believe that the company is telling them a different story than it is telling the owners, a belief not wholly conducive to harmonious relations between the company and its employees. One clear readable report should be sufficient for everyone for, as we have seen, the public we are addressing is one homogeneous mass. There is certainly no reason to believe that employees as a group are less intelligent than stockholders as a group.

An annual report at the best is hard reading, but an annual report that is not read is worthless. Let us brighten the report wher-

ever possible with attractive covers, with pictures, with graphs, etc. This is the field of advertising, and the advertising manager should be consulted. Moreover, the language used should be clear and easily understood, avoiding like the plague technical words and phrases. In many cases, however, simplification of language has been overdone. No one likes to feel that he is being written down to, and most people understand better than we sometimes think they do. Adults seldom enjoy reading books written for children. Certainly such magazines as "Reader's Digest," "Saturday Evening Post," "Collier's," and the rest appeal to the same public, and the writers for these magazines are not afraid to use the correct word even though it may have more than two syllables.

Perhaps the biggest change needed to clarify many present-day reports is the clarification of the so-called explanatory notes appended to so many financial statements. These notes often leave the best of accountants gasping for breath; they must fill the lay reader with utter confusion and perhaps even with disgust. In many, if not all cases, an item important enough to be discussed in a note to the financial statements is also an item important enough to be discussed in the text portion of the report. If so, a clear and complete treatment of the item can be given in the text, and all that should be needed as a note to the financial statements is a simple reference to the appropriate portion of the text.

An annual report is also much more likely to be read if it is news, and news stales rapidly. By all means, then, the report should be issued as soon after the end of the company's fiscal year as possible. It is amazing how short an interval is needed between the year end and the issuance of the report if everything possible is done to reduce it. Most of the text, except figures of course, can be written in advance; the comparative portion of the financial statements can be set in type; and a good portion of the audit can be completed before the year even ends. Our annual report is sent complete to the printer no later than January 25 after a December 31 closing.

*The Widest Possible Distribution*

And now having produced as clear and readable a report as possible, truly and completely portraying the facts concerning the company's operations during the past and preceding years, let us give these reports the widest possible distribution. By all means every employee as well as every stockholder should receive a copy, but also

it should be sent to the business men in the areas surrounding the company's plants, to other businesses throughout the country, to the teachers in high schools and colleges, etc. Many companies have adopted the policy of publishing excerpts from their reports as institutional advertisements in newspaper and in magazines. This policy is certainly a step in the right direction.

With a well-prepared report in the hands of the greatest possible portion of the public, the accountant has made his contribution towards improved public relations. The rest is in the laps of the gods.

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